



## Graduate Course Catalog 2016-2017

### About the Catalog ▼

The University provides information pertaining to the Family Educational Rights and Privacy Act of 1974 (the "Buckley Amendment") in the annual student handbook. Information is also available from the office of the Senior Vice Provost for Student Life and Dean of Students. The annual student publication, [Student Rights, Rules, and Responsibilities](http://www.unh.edu/student-life/handbook) (<http://www.unh.edu/student-life/handbook>), also contains University regulations and policies regarding student conduct.

The University will supply information about the employment of its graduates who have graduated from our degree and/or certificate programs. This information may be obtained upon request from the University's Advising and Career Center and is available by university, college, or school to current and prospective students. Information on employment outcomes depends on student self-reporting. The University does not guarantee employment to its graduates. Chances for employment are enhanced if students have begun career planning early in their degree programs.

Program descriptions may vary from the actual content or requirements because of advancements in the discipline or the active nature of academic planning and decision making. Accordingly, the University reserves the right to make whatever changes are deemed necessary in schedules, course content, requirements, academic programs (including their termination), calendar, tuition and fees, services, or any other aspect of the University's operations, giving whatever notice thereof is reasonable under the circumstances. Therefore, the provisions of this catalog are not an irrevocable contract between the students and the University. The University is also not responsible for failure to provide or for delay in providing expected services and/or facilities when such failure arises from causes beyond the reasonable control of the University.

All aforementioned publications are available in alternate formats upon request.

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## Graduate Course Catalog 2016-2017

### Graduate School ▼

» <http://www.gradschool.unh.edu/>

#### Introduction ▼

The University of New Hampshire enrolls 12,000 undergraduate students and 2,200 graduate students in Durham and has a full-time faculty of more than 600. A comprehensive research university, it retains the look and feel of a New England liberal arts college with a faculty dedicated to teaching. The University is ideally located within easy driving distance to the White Mountains, the Seacoast area of New Hampshire, and Boston.

UNH is a land-, sea-, and space-grant research university. It comprises the following academic units: the College of Engineering and Physical Sciences; College of Liberal Arts; College of Life Sciences and Agriculture, which includes the Thompson School of Applied Science; College of Health and Human Services; Peter T. Paul College of Business and Economics; University of New Hampshire at Manchester; University of New Hampshire School of Law in Concord; and the Graduate School.

The University System of New Hampshire, of which UNH is a member, also includes Keene State College, Plymouth State University, and Granite State College.

The University awarded its first Ph.D. in 1896, placing it among the earliest American universities to award that degree. Doctoral programs in their present form began in the 1950s.

#### Graduate Education ▼

The mission of the Graduate School is to provide innovative, responsive, and accessible master's and doctoral degree programs of the highest quality to graduate students. Our programs foster a close interdependence between research and classroom teaching. The 600 graduate faculty members and more than 2,200 graduate students at UNH work together to develop new theoretical and empirical knowledge, design innovative methods and technologies to discover and disseminate that knowledge, and engage in undergraduate and graduate state-of-the-art teaching. The Graduate School is a source of intellectual capital for the University, the region, and the nation.

UNH is the primary institution within the University System of New Hampshire responsible for providing graduate programs that meet state, regional, and national needs and the only one at which doctoral programs are offered. Other units of the University System do offer some master's degree programs.

The Graduate School is led by the dean, who implements the policies of the graduate faculty. The dean is advised by the Graduate Council, which is composed of elected faculty members and graduate student representatives.

#### Graduate School ▼

[www.gradschool.unh.edu](http://www.gradschool.unh.edu)

The Graduate School provides assistance to prospective and current students from the time of their first inquiry about graduate study until completion of their graduate programs. Students are encouraged to contact the Graduate School staff with questions regarding academic policy, financial assistance (scholarships, fellowships, and travel grants), and availability of University services.

#### Graduate Council ▼

The Graduate Council is comprised of 12 graduate faculty members and four graduate students. The council advises the dean of the Graduate School on policies concerning graduate education and is responsible to the graduate faculty for recommendations concerning new graduate programs. Standing committees of the council include the doctoral program committee, the master's program committee, the student affairs committee, and program review committee.

## Master's Programs ▼

The University offers master's degree programs in a wide variety of disciplines, which can serve either as professional terminal degrees or as intermediate degrees for those intending to pursue further graduate study. In many programs, students can elect options that will permit them to study one aspect of a discipline in depth by preparing a thesis or to gain a broader mastery of a discipline by electing to take coursework in lieu of a thesis.

## Doctoral Programs ▼

The University offers doctoral programs in those disciplines that have both the faculty and facilities to support high-quality advanced graduate education. Care has also been taken to ensure that the programs will make a significant contribution to the opportunities for doctoral education in the New England region. Doctoral education properly focuses on preparing the student to contribute to the growth of knowledge through research. Most doctoral programs also provide opportunities for students to work as teaching assistants and to participate in seminars on teaching led by experienced faculty members. After receiving a dual grounding in the development and communication of knowledge, graduates from UNH doctoral programs have gone on to find excellent teaching and research positions.

## Interdisciplinary Programs ▼

The Graduate School encourages and supports interdisciplinary study within existing programs and in the form of new and innovative graduate curricula. While self-designed courses of study are not available at the University, many of our programs offer a range of electives, cross-disciplinary study, and independent projects that allow students to tailor their work to reflect individual interests. This is especially true at the doctoral level. In addition, the Graduate School oversees intercollegiate programs that involve faculty and coursework from more than one school or college. Intercollegiate programs offer students the opportunity to pursue new and emerging fields of study that draw upon multiple disciplines, leading to solid disciplinary foundations as well as cross-disciplinary skills useful for solving new social and scientific problems. Opportunities for interdisciplinary research are also available in the institutes and centers at the University.

## UNH Graduate School Manchester Campus ▼

[www.gradschool.unh.edu/manchester](http://www.gradschool.unh.edu/manchester)

The University of New Hampshire Graduate School Manchester Campus (UNH GSMC) offers post-baccalaureate programs in applied professional fields. Centrally located in Manchester's historic Millyard in the heart of the I-93 corridor, the Graduate School offers the expertise of University of New Hampshire faculty, contemporary curricula, modern educational facilities, convenient access, flexible schedules, and most important, a graduate degree from the University of New Hampshire, the state's flagship public university.

## McNair Graduate Opportunity Program ▼

[www.unh.edu/mcnair](http://www.unh.edu/mcnair)

The McNair Graduate Opportunity Program provides eligible undergraduate students with ongoing consultation and support from faculty mentors and staff to help ensure their success in making the transition from undergraduate to graduate education. There is both an academic year and a summer component to the program. An application is required.

## Graduate Student Senate ▼

The Graduate Student Senate (GSS) provides a collective voice for the more than 2,000 graduate students who form an integral part of the University community. The representative structure of the GSS comprises representatives from each college and on-campus housing unit. GSS representatives advocate for graduate students at the USNH Board of Trustees and on various University boards and committees. The GSS also promotes the graduate student community by sponsoring professional development opportunities and social events.

## Communication to Students ▼

**University communications are sent to students through the following channels:**

### **Webcat**

Students receive billing statements, register, and view grades, student accounts, and financial aid awards through Webcat, a part of MyUNH (Blackboard).

**University e-mail**

Important notifications are sent to students by many departments and offices via a UNH e-mail address that is assigned by the University. Students are responsible for checking this e-mail address on a regular basis.

**MyUNH (Blackboard)**

Course material and University announcements are available through MyUNH, a student portal system.

**Mail to permanent address**

Some notifications are sent in the student's name to the permanent mailing address.

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## Graduate Course Catalog 2016-2017

### Graduate School ▼

» <http://www.gradschool.unh.edu/>

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### Accounting (ACFI) ▼

» <https://paulcollege.unh.edu/academics/graduate-programs>

» [Click to view course offerings](#)

*This program is offered in Durham.*

*Assistant Professor: Cristina Bailey, Allen Hartt*

#### **Degree Offered: M.S.**

The master of science in accounting, offered by the Peter T. Paul College of Business and Economics, develops students' competencies to become innovative problem solvers in public accounting firms as well as small businesses, non-profit organizations, and major corporations. Designed for students with undergraduate degrees in accounting, the graduate program can be completed in one year. Applicants without an undergraduate degree in accounting can still apply but will need to take additional undergraduate business and accounting courses prior to beginning the graduate program.

The program satisfies the 150-hour course load required by most U.S. state licensing boards, including the state of New Hampshire. The Paul College is AACSB accredited. The master of science in accounting program strives to ensure that students have range and depth in the field, and emphasizes strong analytical and communication skills as well as fosters awareness of ethical issues.

#### **Admission Requirements**

The primary admission period for the program is the fall. Admission requirements include a personal history that demonstrates high academic achievement, as well as the applicant's potential and desire for graduate study in accounting. Applicants are required to submit copies of prior academic records, current GMAT scores, three references, and a complete Graduate School online application. A baccalaureate degree program must be completed prior to beginning the M.S. program.

#### **GMAT waiver:**

Current UNH undergraduate accounting option students or undergraduate accounting students from other AACSB-accredited business schools may request a GMAT waiver from the Graduate School if they meet one of the follow conditions:

Cumulative GPA of 3.2 or higher

or

Accounting Option/Major GPA of 3.5 or higher

Admission to the program is highly selective and limited. Interested applicants are advised to apply as early as possible.

#### **Degree Requirements**

Upon admission to the program, applicants are required to complete seven required courses and three track courses detailed in the following program outline. ACFI 850 (Accounting Theory and Research) is the capstone course.

All admitted candidates are expected to have completed a series of prerequisite courses. If an applicant has not completed all of the prerequisite courses, the admissions committee may offer provisional admission and require that the applicant take the prerequisite courses prior to beginning the standard course of study.

### Fall Semester- Five Required Courses

Abbreviation	Course Number	Title
ACFI	820	Corporate Taxation
ACFI	844	Advanced Accounting
ACFI	895	Government and Non-Profit Accounting
ACFI	890	Accounting Information System
ACFI	897	Ethics and Professional Practice

### Spring Semester-Two Required Courses Plus Three Track Course

Abbreviation	Course Number	Title
ACFI	860	Advanced Business Law (Required Course)
ACFI	850	Accounting Theory and Research (Required Course)

### Auditing and Assurance Track

Abbreviation	Course Number	Title
ACFI	830	Advanced Auditing
ACFI	896	Topics / International Accounting
ACFI	840	Forensic Accounting and Fraud Examination

### Tax Track

Abbreviation	Course Number	Title
ACFI	896	Topics / Applied Tax Research and Planning
ACFI	896	Topics / Advanced Topics in Tax
ACFI	896	Topics / Advanced Business Taxation

### Integrated Audit and Tax Track

Title
Three of the six track courses above

### **For students with non-accounting business degrees:**

Prerequisites that must be completed at the undergraduate level are:

ACFI 621, Intermediate Financial Accounting I  
ACFI 622, Intermediate Financial Accounting II  
MGT 647, Business Law I  
ACFI 723, Advanced Managerial Accounting Concepts and Applications  
ACFI 724, Auditing  
ACFI 726, Introduction to Federal Income Taxation

### **Students who do not possess an undergraduate degree in business must also complete:**

ADMN 502, Financial Accounting  
ADMN 503, Managerial Accounting  
ECON 401, Principles of Economics (Macro)  
ADMN 420, Business Statistics  
ADMN 570, Financial Management  
ADMN 970, Economics

In addition, students must choose two of the following:

ADMN 575, Behavior in Organizations  
ADMN 585, Marketing  
ADMN 580, Quantitative Decision Making

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## **Analytics (DATA) ▼**

» <http://www.unh.edu/analytics>

» [Click to view course offerings](#)

*This program is offered in Durham.*

### **Degrees Offered: M.S., Certificate**

The full-time, 11-month Master of Science in Analytics program immerses students in the skills necessary to become effective analytics professionals, including: quantitative tools, applications and reasoning, critical thinking and presentation/communication skills. This program places heavy emphasis on student application of knowledge and skills through a two-semester practicum where students work in teams to complete an industry or government sponsored real-world analytic problem. In addition, the program emphasizes student professional development with respect to written and oral communication, leadership, and career development. Students specialize in a domain of interest by choosing a "cluster" made up of two courses in a specific area of study. Currently the program offers business, health, and sports clusters. For more information, view the MS Analytics program flyer.

### **Admission Requirements**

Applicants are expected to hold a Bachelor's degree as verified by official transcripts with a minimum GPA of 3.0 from an accredited undergraduate/graduate degree institution(s), at least one statistics course, three letters of recommendations, current CV, Completion of the four essay questions, and an interview with an Analytics Program faculty.

### **Master of Science in Analytics**

### **Degree Requirements**

36 credits completed with a cumulative grade point (GPA) average of 3.0 or higher and grades higher than B-.

Passing grade on Practicum Project – Student demonstrates synthesized learning from the curriculum into the analysis of a team project which includes applied skills in data cleaning, data mining, and analysis, professionalization, including presentation skills, conceptual mapping of questions, conveying of data and analytic limitations, and project scoping, as well as communication, messaging, and professional development skills.

Satisfactory attendance

Acceptable Student Professional Code of Conduct

Required Courses

DATA 800- Introduction to Applied Analytics Statistics

DATA 801- Foundations of Data Analytics

DATA 802- Analytical Tools and Foundations

DATA 803- Introduction to Analytics Applications

DATA 900- Data Architecture

DATA 901- Analytics Applications I

DATA 911- Analytics Practicum I

Cluster Elective I

DATA 902- Analytics Methods

DATA 903- Analytics Applications II

DATA 912- Analytics Practicum II

Cluster Elective II

### **Graduate Certificate in Analytics**

The Graduate Certificate in Analytics is a 10 week, on campus program that provides a “real-time, real world” introduction to today’s tools, methods and uses of data. The program is completed alongside the MSA students during the summer semester. Students will complete an applied 5-week applied, data driven project.

It is an excellent program for anyone exploring a career in data analytics or individuals working in data analytics positions with no formal academic background in analytics.

### **Admissions Requirement**

Application to the UNH Graduate School

Application fee ([pay online](#))

Prior College Transcripts: Applicants must hold a baccalaureate degree (no specific field of study is required) from an accredited college or university with a 3.0 GPA

Letters of Recommendation (2)

Personal Statement Essay

Resume

TOEFL Score for international applicants, Internet Based: 80 or higher (IELTS maybe be substituted)

### **Graduate Certificate in Data Science (Online)**

The Introduction to Data Science Certificate is a 16 week graduate program that exposes students to current, cutting edge data programming, statistical modeling and visualization tools through guided, online instruction and applied case studies.

Learn the skills to analyze and leverage a wide variety of data for better decision making and competitive advantage.

This certificate program offers a flexible, short-turnaround time to completion allowing busy employees to participate. Enjoy applied learning in a self-paced but facilitated environment with course instructors and a student success coach.

### **Who Should Enroll?**

Professionals who want to increase their earning potential, advance their careers, and make a greater impact within their business or organization with advanced data analytic and coding skills. This certificate is beneficial to those in the fields of business analyst,



data analyst, financial analyst, computer scientist, programmers, database administrators, researchers, statisticians, and marketing.

## Admissions Information

Application to the UNH Graduate School

\$25 application fee ([pay online](#))

Prior college transcripts Applicants must hold a baccalaureate degree (no specific field of study is required) from an accredited college or university with at least a 3.0 GPA or commensurate experience. This requirement may limit applicants who have older degrees)

Letters of professional Recommendation (2)

Personal Statement Essay

Resume

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## Animal and Nutritional Science (ANSC) ▼

» <http://mcbsgrad.unh.edu/>

» [Click to view course offerings](#)

*This program is offered in Durham.*

The Department of Molecular, Cellular, and Biomedical Sciences offers the Ph.D. in animal and nutritional sciences in conjunction with the animal science program in the Department of Biological Sciences.

Information on the Ph.D. program is described below. For information about the master of science programs in nutritional sciences ([www.mcbsgrad.unh.edu](http://www.mcbsgrad.unh.edu)) or animal science ([www.biolsci.unh.edu](http://www.biolsci.unh.edu)), please visit their respective websites, including the course listings for molecular, cellular, and biological sciences (MCBS) and nutritional sciences (NUTR).

### **Degree Offered: Ph.D.**

The Ph.D. degree in animal and nutritional sciences has, as its primary research foci, the study of biological and nutritional processes that promote animal and human health and disease, and in the case of animal health, its effect on production. Areas of research specialization include human nutrition, mammalian physiology and pathology, nutritional biochemistry and metabolism, and reproduction and endocrinology. Research activities utilize human, animal, and cell culture systems to investigate nutrient metabolism and a molecular-level understanding of life processes and diseases.

### **Admission Requirements**

Students applying for the Ph.D. program will be expected to present recent (within five years) general Graduate Record Examination (GRE) scores and possess a background in basic sciences appropriate for advanced study in the proposed area of specialization (for example, courses in biology, chemistry, organic chemistry, biochemistry, and physics). Although not required for candidacy in the Ph.D. program, an M.S. degree is suggested for most students. The student's committee may require certain undergraduate courses as part of the graduate program if additional competencies would be beneficial to the student.

### **Degree Requirements**

### **Ph.D. in Animal and Nutritional Sciences**

The Ph.D. in animal and nutritional sciences trains students to gain advanced knowledge and develop research expertise in such areas as the cellular and molecular biology of various nutrients, nutritional physiology and biochemistry, vascular biology and cardiovascular disease, immunology and genetics, obesity and diabetes, dairy nutrition, human nutrition, reproductive physiology, and endocrinology. It prepares students for future careers in technical consulting, education, and research in academic, industrial, and government institutions. Students with appropriate academic training at the baccalaureate or master's degree level will design a program of study in conjunction with a faculty guidance committee. The student will advance to candidacy after successful completion of all relevant graduate courses and passing a qualifying examination conducted by the guidance committee, which will contain oral and/or written components at the discretion of the committee members. The "guidance" committee for doctoral

students will consist of a minimum of five members, three of whom must be from within the Animal and Nutritional Sciences Program; at least one member must be from outside the program. After the student's advancement to candidacy for the Ph.D. degree, a doctoral committee (which can be different from the guidance committee) will be appointed to supervise and approve the dissertation.

The dissertation must be based on original hypothesis-driven research of publishable quality. A public presentation of the dissertation research findings will be followed by a final examination, which will be primarily an oral defense of the dissertation. The candidate will be required to serve as a teaching assistant for a minimum of two semesters or to teach a course for one semester. Skills in communicating scientific information will be fostered by presenting one seminar during each year of enrollment. This requirement could include the dissertation defense seminar.

## Courses

For a complete listing of courses, check **animal science**; **molecular, cellular, and biological sciences**; and **nutritional science**.

» [Click to view course offerings](#)

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## Animal Science (ANSC) ▼

» <http://colsa.unh.edu/dbs>

» [Click to view course offerings](#)

**Note: Effective Spring 2016 admission to the Master of Science degree in Animal Science has been suspended.**

## Admission Requirements

Students applying for the M.S. program will be expected to present recent (within five years) general Graduate Record Examination (GRE) scores and possess a background in basic sciences appropriate for advanced study in the proposed area of specialization (for example, courses in biology, chemistry, organic chemistry, biochemistry, and physics).

## Degree Requirements

### M.S. in Animal Science

Animal science M.S. students must become actively engaged in a research project and gain a comprehensive understanding of animal sciences through coursework and research. This degree is for students with a strong background in basic biology, chemistry, and animal sciences who anticipate a professional career involving research or discovery. This path is appropriate for students who expect to pursue additional graduate studies or professional school after graduation.

The program of study must include a minimum of 30 graduate credits and completion of a master's thesis based on a research project. Six credits of thesis research (ANSC 899) are required. No more than 4 credits of investigations (ANSC 995) can apply. A thesis committee will be appointed early in the program and consist of at least three members of the graduate faculty; one of these will be the primary mentor. Students will design a program of study in consultation with the thesis committee. Candidates will be required to pass an oral examination based on graduate courses and completed thesis.

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## Biochemistry (BCHM) ▼

» <http://mcbsgrad.unh.edu/>

» [Click to view course offerings](#)

*This program is offered in Durham.*

### **Degrees Offered: M.S., Ph.D.**

The Department of Molecular, Cellular, and Biomedical Sciences offers a five-year B.S./M.S., a master of science, and a doctor of philosophy degree in biochemistry. Research opportunities are available in the general areas of molecular biology, cellular biology, and biochemistry, with specific research programs in eukaryotic gene regulation; reproductive physiology; molecular population genetics; macromolecular interactions; cell signaling pathways in cancer and leukemia; evolution of eukaryotic genomes; glycobiology; protein kinases and phosphatases in plant signaling; structure/function relationships in macromolecules, proteomics, and epigenomics; DNA repair mechanisms; etiology of vascular disease; and sensory transduction. Opportunities also exist for interdisciplinary research in marine biochemistry, biochemical nutrition, and cell biology in adjunct facilities on campus.

### **Admission Requirements**

An applicant is expected to have completed basic courses in chemistry, biological sciences, mathematics, and physics. Otherwise well-qualified applicants will be permitted to correct deficiencies in undergraduate education by enrollment in the appropriate courses or by independent study during the first year. Applicants must submit current scores (within five years) from the general test of the Graduate Record Examination. Applicants from non-English-speaking countries must also provide TOEFL (Test of English as a Foreign Language) scores.

### **Degree Requirements**

#### **M.S. Degree Requirements**

A student will meet the Graduate School's requirements for the master's degree (minimum 30 credits) and will be expected to develop a 6-10 credit thesis (BCHM 899) on a basic research problem or to prepare a report or publication based on original research in biochemistry or molecular biology. Demonstration of proficiency in physical chemistry and biochemistry will be assessed in the first year. A guidance committee meeting will be held soon after a thesis adviser is identified. All candidates for the M.S. degree will be required to pass an oral examination based on the thesis or project report and on the graduate courses completed in the degree program.

#### **B.S./M.S. Degree Requirements**

This accelerated five-year program leading to a combined bachelor's degree and master's degree in biochemistry is designed for highly motivated and qualified undergraduate UNH students seeking additional training to further their career goals as researchers in the life sciences. Admission to the combined degree program is highly competitive. Students wishing to pursue this program must have a grade point average greater than 3.2 at the time of application. A thesis adviser must be identified during the junior year, and the approval of the adviser must be obtained. Prior to the first semester of the senior year, the student must formally apply to the department through the Graduate School and receive early admission. The requirement for the Graduate Record Examination is waived for combined degree applicants. Thirty credits of graduate level (800-999) coursework (including dual-credit courses) must be completed. Six to 8 credits of graduate-level courses must be taken during the senior year and are applied to both the B.S. and M.S. requirements. All other requirements for the M.S. degree must be followed.

#### **Ph.D. Degree Requirements**

The Ph.D. in biochemistry requires the completion of significant, original independent research and preparation of a thesis for submission to the Graduate School. In most cases, it is expected that the Ph.D. degree will be completed within four to six years of admission to the graduate program.

Credits: Graduate credits are earned for courses numbered 800-999. A minimum of two semesters of Doctoral Research (BCHM 999) is required. Most Ph.D. candidates enroll in BCHM 851-852 during their first year of study, unless the diagnostic examinations indicate sufficient undergraduate preparation in general biochemistry.

Guidance Committee: During the second semester and after selecting a thesis adviser and a potential project, the student, in conjunction with the adviser, will choose a guidance committee. This committee consists of five faculty members: the adviser (as chairperson), two other members of the biochemistry faculty, and up to two faculty members from outside departments. However, only three members of the guidance committee are required for the second-year exam. The committee will meet soon after selection of a thesis project to determine the student's curriculum. Courses required by the guidance committee must be taken for credit and completed with a passing grade (at least a B-). Courses recommended by the committee may be audited or taken for

credit, but in either case, the student is expected to be familiar with the subject matter of these courses. The guidance committee will meet each semester thereafter to assess the student's academic and research progress. The Supervisory Committee Nomination Form must be completed and submitted to the Graduate School by the end of the first year.

**Doctoral Committee:** The doctoral committee is composed of the faculty adviser (as chairperson), two other faculty members in the graduate program in biochemistry, and two faculty members from other departments. In most cases, the guidance committee will constitute the doctoral committee. The doctoral committee evaluates the dissertation and administers the final examination. The doctoral committee will meet annually to assess the progress toward completion of the Ph.D. requirements.

**Written Thesis:** The student is required to prepare a written doctoral dissertation for submission to the doctoral committee. The dissertation must represent significant and original research written in a clear, comprehensible style. A copy of the complete thesis must be made available to the committee at least two weeks before the date of the final examination. Publication of the dissertation by University Microfilms is required. All costs associated with the preparation and publication of the thesis are the responsibility of the student.

**Candidacy:** Candidacy is reached following 1) written and oral defense of research proposal during spring of second year and 2) written and oral qualifying/proposal examination. Further details can be found at <http://mcbsgrad.unh.edu/diagnostic-exams>.

**Final Defense:** An oral examination of the doctoral dissertation consists of two parts: an oral presentation of the research that is open to the public, and an oral defense of the dissertation conducted by the doctoral committee. Final approval of the doctoral dissertation will be determined by a majority vote of the doctoral committee. The final examination must be completed by the date listed in the Graduate School calendar.

## Teaching Requirement

Teaching assignments in the laboratory, in lectures, or in an individual instruction format are an essential part of the graduate academic programs of the department and are designed to give graduate students practical teaching experience. Normally, one year of part-time teaching will be required of each Ph.D. student.

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## Biological Sciences (BIOL) ▼

» <http://www.biolsci.unh.edu/>

» [Click to view course offerings](#)

*Assistant Professor:* Arturo Andrade, Todd C. Guerdat, Carrie L. Hall, Daniel R. Howard

## Degrees Offered: M.S., Ph.D.

The Biological Sciences Graduate Program offers M.S. and Ph.D. degrees in Biological Sciences, with options in Agricultural Sciences, Integrative and Organismal Biology, and Marine Biology.

**Agricultural Sciences (AS)**. This option is intended for students interested in careers in agriculture and aquaculture-related fields, particularly in linking the diverse components of agricultural production systems. The option centers on basic and applied research on agriculturally relevant plants, microbes and animals, both terrestrial and aquatic, spanning genetics, physiology, biotic and abiotic stresses, environmental interactions, production systems, and cultural practices. Students in agricultural sciences will acquire a broad knowledge of agricultural production, with strong emphasis on improving productivity and overall sustainability while minimizing environmental impacts. Within this overarching theme, students will conduct focused research in one or more of the following areas: controlled environment agriculture; integrated agricultural production systems; agricultural nutrient capture and reuse; aquaculture of freshwater and marine plants and animals; agroecology; dairy nutrition and reproductive management; equine management; crop production; integrated pest management; agricultural biotechnology; plant breeding, genetics, and genomics; and/or plant pathology. The agricultural sciences option prepares students to become experts in professional fields related to agriculture, and leaders in collaborative and interdisciplinary efforts to address local, regional, national and/or global agricultural issues. Students may pursue careers in teaching and/or research in federal, state, and private organizations.

**Integrative and Organismal Biology (IOB)**. This option offers a home to students interested in basic organismal biology in all of its diverse aspects (physiology, neurobiology, cell biology, genetics, evolution, ecology, systematics, etc.), in both terrestrial and aquatic environments. Modern biology employs approaches and tools ranging from molecular to ecological levels to gain a deep understanding of organismal functions and adaptations. Students in IOB approach their studies with a focus on organisms, and apply whatever tools are necessary to answer thematic and specific questions. Students interested in combining hands-on biological projects with research on teaching and learning biology at the post-secondary level should choose this option, unless their intended projects have a specifically agricultural or marine focus. Students completing degrees in IOB will be prepared for a wide

range of professional careers in animal and/or plant biology, whether in academia, government, research, or non-profit organizations

**Marine Biology (MB).** This option is intended for students interested in marine, coastal, and estuarine ecosystems, and the organisms that inhabit them, at all levels of inquiry. Some faculty at UNH study/use marine organisms as model systems for learning about molecular phylogeny, cellular metabolism, cancer and neurobiology, and others are more interested in the structure and function of marine ecosystems. Some faculty members focus primarily on basic research; others work in more applied areas such as aquaculture and fisheries; many combine the two. Students who have earned advanced degrees at UNH have gone on to lead agencies involved in managing valuable marine resources, teach marine biology at other universities and colleges, own their own aquaculture companies, or earn a living conducting research in marine sciences. In addition to on-campus facilities, UNH owns the Coastal Marine Laboratory and the Jackson Estuarine Laboratory, and a range of vessels associated with each laboratory. UNH has an excellent SCUBA diving program for students interested in becoming certified to dive as part of their research. The Marine Biology option is also affiliated with UNH's School of Marine Sciences and Ocean Engineering ([marine.unh.edu](http://marine.unh.edu)).

Related programs. Students interested in fields of investigation such as molecular biology and genomics should also review the graduate programs in the Department of Molecular, Cellular and Biomedical Sciences, including Genetics and Molecular & Evolutionary Systems Biology (<http://www.mcbsgrad.unh.edu>); those interested in Ecosystems, Wildlife and Forestry should review graduate programs in the Department of Natural Resources (<https://colsa.unh.edu/nren/natural-resources>), including Natural Resources and Earth Systems Science (NRESS) (<http://www.unh.edu/nressphd/>).

### **Admission Requirements**

Applicants ordinarily will have completed an undergraduate major in biology or a related field. A basic array of courses including general biology, development, ecology, genetics, morphology, and physiology is recommended; applicants should have completed organic chemistry and a semester each of calculus and physics. Applicants whose preparation does not meet these criteria can be admitted to graduate status, but may need to remedy any deficiencies via courses that do not give graduate credit. Applicants must submit scores from the general test of the Graduate Record Examination (GRE), taken within the past five years. The GRE subject test is not required.

All applicants are strongly encouraged to communicate with potential advisors as part of the application process. Identifying an advisor is normally a prerequisite for admission.

### **M.S. Biological Sciences**

Students plan a program of study in conjunction with their advisor and Master's Thesis Committee, including the required core courses and competencies. Completion of at least 30 credits, including research credits, is required. A thesis proposal is developed within the first year. Students complete thesis research for 6 to 10 credits; the degree is completed when results are acceptable, a formal thesis presentation and defense has occurred, and the thesis is approved by the Master's Thesis Committee and accepted by the Graduate School.

### **Ph.D. Biological Sciences**

Students work with their advisor and their Doctoral Guidance Committee to plan a program of study including the required core courses and competencies, and develop a viable research proposal. The Guidance Committee is normally established by the end of the first semester, and should meet by the end of the second semester. The student presents to the Guidance Committee a preliminary research proposal in which the soundness, originality, and feasibility of the planned research are clearly described. The Guidance Committee is responsible for approving the proposal, and also oversees the qualifying examination through which the student is admitted to doctoral candidacy. The Doctoral Dissertation Committee is established at this point. To earn the Ph.D. degree, students must complete an original dissertation project, present the results at a public seminar, pass an oral dissertation defense consisting of questions from members of the Dissertation Committee, and have the dissertation approved by the Dissertation Committee and accepted by the Graduate School.

### **Degree Requirements**

A common set of policies and guidelines applies to all three Biological Sciences degree options (AS, IOB, and MB). Additional option-specific course recommendations or requirements may be established by the faculty within each option.

Number of credits required:

The M.S. degree requires completion of a minimum of 30 credits, 6-10 of which may be earned for thesis research (BIOL 899). There is no specific credit requirement for the Ph.D., though students must take all required core courses. The Biological Sciences Program specifies 4 credits' worth of required courses (BIOL 901 and 903, 2 credits each); most students use 6 more credits to satisfy competencies in experimental design/analysis (BIOL 811 or 933, 4 credits) and in writing/communication (BIOL 902 or LSA 950, 2 credits), though these competencies may also be fulfilled by other graduate coursework approved by the student's committee.

Up to 8 credits of graduate credit from another institution may be transferred, provided the credits were not counted toward another degree, and the course grade was a B or higher. Petitions requesting transfer credit must be supported by the advisor and graduate committee, and approved by the UNH Graduate School.

Required courses, competencies, and electives:

All students in the Biological Sciences Graduate Program are required to take both core courses and fulfill the two competency requirements.

### 1. Core Courses.

a. Introductory Graduate Seminar (BIOL 901). This first-semester course focuses on key information and skills for a successful transition into the graduate program, familiarizing students with program requirements and faculty and providing an opportunity to meet others in their cohort.

b. Graduate Research Techniques (BIOL 903). Normally taken in the second semester, this course introduces students to diverse research approaches, tools, and facilities within the program. Content will vary to align with the needs and specializations of each cohort of graduate students.

2. Competencies in (a) experimental design and analysis, and (b) scientific writing/communication. These may be fulfilled by previous graduate coursework (as determined by the student's advisor and committee), or by taking one graduate-level course in each area.

a. Two advanced courses in experimental design and analysis are offered, normally in alternate years. The first is Applied Biostatistics II (BIOL 811), and the second is Design, Analysis and Interpretation of Experiments (BIOL 933). Either course, or an equivalent approved by the student's advisor and committee, can be used to fulfill this competency requirement.

b. Scientific Writing (BIOL 902) is taught fall semester, and open to students at any stage of the program. Scientific Communication (LSA 950) is usually taught in spring. Either course, or an equivalent approved by the student's advisor and committee, can be used to fulfill this competency requirement.

3. Electives. Students will work with their advisor and committee to identify additional courses appropriate for their area of specialization and their career objectives.

### Additional information/requirements

All students in the Biological Sciences Program are expected to present their research in public seminars (including the UNH Graduate Research Conference), and acquire teaching and/or mentoring experience.

A summary of M.S. and Ph.D. degree requirements is available at <https://colsa.unh.edu/dbs/biological-sciences-graduate-program>, along with the program's graduate handbook, which includes expectations, guidelines, and detailed policies.

### Research and Facilities

The Biological Sciences graduate program is enhanced by research in other departments and institutes across the University.

These include the **School for Marine Sciences and Ocean Engineering** (<http://marine.unh.edu/>) and its **associated programs and facilities**: N.H. Sea Grant Program (<http://seagrant.unh.edu>); the Center for Collaborative Science (<http://marine.unh.edu/center-for-collaborative-science>); the Institute for the Study of Earth, Oceans, and Space (EOS) (<http://www.eos.unh.edu>); the UNH Center for Coastal and Ocean Mapping (CCOM) (<http://ccom.unh.edu>); the Joint Hydrographic Center (<http://marine.unh.edu/center-coastal-and-ocean-mappingjoint-hydrographic-center>); and the Ocean Processes Analysis Laboratory (OPAL) (<http://www.opal.sr.unh.edu>). There are five marine laboratories: Jackson Estuarine Lab (<http://marine.unh.edu/facility/jackson-estuarine-laboratory>), Judd Gregg Marine Research Complex (<http://marine.unh.edu/facility/judd-gregg-marine-research-complex>), Anadromous Fish and Aquatic Invertebrate Research Lab

(AFAIR) (<http://marine.unh.edu/facility/anadromous-fish-and-aquatic-invertebrate-research-laboratory-afair-lab>), the Aquaculture Research Center (ARC) (<http://zoology.unh.edu/facilities>), and the Shoals Marine Laboratory (SML) (<http://marine.unh.edu/SML>). The Center for Freshwater Biology (CFB) (<http://cfb.unh.edu>) jointly administers (with the UNH Cooperative Extension) the Lakes Lay Monitoring Program (<http://extension.unh.edu/Volunteer/NH-Lakes-Lay-Monitoring-Program>), which is dedicated to the preservation and sound management of lakes through citizen-based monitoring and research.

**The New Hampshire Agricultural Experiment Station** (<https://colsa.unh.edu/nhaes/>) supports a range of basic and applied research – including graduate student assistantships – as part of its mission “to [generate] knowledge and technology to support a highly diversified agricultural and natural resource system that produces, processes and delivers food, fiber, forest products, and myriad environmental services for our citizens....in the context of protecting environmental quality, and helping to maintain the viability of rural communities.” (<https://colsa.unh.edu/nhaes/mission>) **Agricultural facilities** include the Keener Dairy Research Building, Fairchild Dairy Teaching and Research Center (<https://colsa.unh.edu/nhaes/fairchild>), Burley-DeMerritt Organic Dairy Research Farm (<https://colsa.unh.edu/woodlands/properties/burleyDemeritt>), Woodman Horticultural Research Farm (<https://colsa.unh.edu/nhaes/woodman>) and Kingman Farm (<http://colsa.unh.edu/woodlands/properties/KingmanFarm>) along with other outlying fields and forests. Additional research in plant biology and agriculture is carried out in the Macfarlane Research Greenhouses (<https://colsa.unh.edu/nhaes/macfarlane-research-greenhouses>) and the Hogdon Herbarium (<http://www.unh.edu/herbarium/>).

**The Hubbard Center for Genomic Studies** (<http://hcgs.unh.edu>) provides training and research in comparative and environmental genomics, with a special emphasis on novel model species. It provides expertise in constructing DNA libraries, DNA sequencing, fragment analysis, and the analysis of gene expression.

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## Business Administration (ADMN) ▼

» <https://paulcollege.unh.edu/academics/graduate-programs>

» [Click to view course offerings](#)

*This program is offered in Durham and in Manchester through [GSMC](#).*

### **Degree Offered: M.B.A.**

This program is offered in Durham, Portsmouth, Manchester, and online

The Peter T. Paul College's M.B.A. programs are all AACSB (Association to Advance Collegiate Schools of Business) accredited, the gold standard for business school accreditation. We are proud to be one of only two full-time M.B.A. programs with AACSB accreditation in the state of New Hampshire and the only part-time, and online M.B.A. programs to hold the AACSB seal of accreditation in the state.

Our M.B.A. programs incorporate and rely on strong partnerships with the corporate community. Externally engaged and firmly focused, we create technologically proficient problem solvers, innovative and creative thinkers, effective communicators, and ethical business leaders.

The Paul College brings together students of great promise, faculty on the cutting edge of research, real-world business partners, and our network of successful alumni to create a vital new center for business education at the University of New Hampshire.

**In 2012, the full-time M.B.A. program had a 95 percent job placement rate.**

### **Admission Requirements**

The Paul College welcomes applicants with an above-average academic record in any undergraduate specialty. The crucial requirement for admission into the M.B.A. program is a history that demonstrates that the applicant has the potential and desire for graduate study in business. Consequently, a portfolio approach to admissions is utilized in which an applicant's work and military experience, along with other indicators of maturity, motivation, and self-discipline, are considered in addition to the applicant's test scores and academic record. All applicants to the full-time, online, and part-time MBA programs are required to take the Graduate Management Admission Test (GMAT) unless they have five years of professional experience or hold a prior relevant graduate-level degree (e.g., M.S., M.A., Ph.D., Ed.D, etc.). GMAT waivers may be requested and are possible based on professional experience. Please contact the department for more information.

Applicants are expected to have successfully completed one semester of calculus, statistics, or have demonstrated proficiency in quantitative reasoning. Interested applicants are encouraged to contact Cynthia Traver, Admissions & Recruiting, Paul College, 10 Garrison Avenue, Durham, NH 03824, (603) 862-1367.

Each M.B.A. program has a different pricing structure. For current rates and fees, please visit the business services website: <http://www.unh.edu/business-services/tuitmba.html>.

## Full-time M.B.A.

The new and innovative curriculum was designed specifically to accelerate a student's progress through this highly-ranked [AACSB](#)-accredited M.B.A. program. The program does this by integrating courses, identifying key skills and concepts necessary for success in business, and then helping students master these skills and concepts through class discussions, cases, guest lectures, and projects. Throughout the program, students will be exposed to the knowledge that builds insight into complex organizations.

The program includes a New York residency, a corporate consulting project, and an international residency.

Students finish their coursework in early July and have a September 1 graduation date.

### Degree Requirements

The curriculum for the one-year intensive full-time M.B.A. program begins with six weeks of required online foundation work during July and August. Students begin classes on campus at the end of August after a three-day orientation program and continue together as a cohort through the academic year. The 48-credit program is comprised of eleven required courses, three electives, a ten-day international residency, and culminates with a five-week, 6-credit corporate consulting project. Electives can be taken in such areas as marketing, finance, entrepreneurship, supply chain management, leadership, and general management. A specialization in entrepreneurship is available in the full-time MBA program and includes an additional Silicon Valley residency.

Students with less than two years of professional work experience must complete an internship that satisfies one elective course.

Core courses will focus on the functional areas of business, how they interact, how they contribute to the goals and objectives of the organization, and how they can be managed effectively. Students will learn the behavioral and social skills that empower effective leaders in any organization, as well as the technical skills necessary to understand complex business processes, manage the development of technology projects, and utilize data for effective decision-making.

	<b>Full-Time Curriculum Schedule (8 Week Terms)</b>				
<b>Pre-Term</b>	<b>Term 1 (Aug-Oct)</b>	<b>Term 2 (Oct-Dec)</b>	<b>Term 3 (Jan-March)</b>	<b>Term 4 (March-May)</b>	<b>Term 5 (May-July)</b>
<b>Harvard Business School Online Statistics Course</b>	<b>ADMN 898</b> Business Principles	<b>ADMN 970</b> Economics	<b>ADMN 940</b> Technology & Operations Management	<b>ADMN 982</b> Strategic Management	Corporate Consulting Project/Summer Internship TBA by Course Instructor
<b>Harvard Business School Online Accounting Primer</b>	<b>ADMN 919</b> Managerial Accounting	<b>ADMN 956</b> Business Analytics	<b>ADMN 840</b> International Business	Elective	
	<b>ADMN 912</b> Organization Behavior	<b>ADMN 930</b> Financial Management	<b>ADMN 952</b> Organizations Leadership & Environments	Elective	
	<b>ADMN 926</b> Information Systems & Enterprise Integration	<b>ADMN 960</b> Marketing Management	Elective	Elective	

*\* Students with fewer than two years of work experience take the M.B.A. Internship in lieu of an elective. The internship begins in October.*

Core courses and electives build an understanding of the business environment, and the corporate consulting project (CCP) provides a first-rate opportunity to apply this knowledge to the real world of business. The class works closely with major



companies such as Fidelity Investments and Liberty Mutual Life Insurance; the class is divided into small teams and each team is assigned a real-life problem. Teams work closely with the host company and faculty advisers. At the end of the projects, the class makes presentations to company sponsors.

### **Part-time and Online M.B.A.**

#### **Part-time M.B.A. Program**

The master of business administration degree part-time option is an excellent choice for practitioners in the workforce who are seeking to advance their careers. The innovative program provides the opportunity for students to earn their degrees in less than two years. Courses are offered at the Durham and Manchester campuses.

The part-time evening M.B.A. program, instituted in 1996, has rapidly grown to become the Paul School's most popular M.B.A. program. The part-time and full-time programs share the same faculty. This evening model is primarily designed for those who are highly motivated and capable of balancing a full-time work schedule with evening study. Classes meet from 5:30-9:15 p.m.

#### **Highlights**

The fast-track M.B.A. part-time option allows students to earn an advanced degree from an AACSB-accredited institution in less than two years.

Students have the opportunity to spend 10 days abroad as part of the international management course. The international residency combines lectures, corporate visits, and cultural activities.

Three areas of specialized concentration are available: marketing and supply chain management, entrepreneurial venture creation, and financial management, as well as a variety of elective courses.

#### **Online M.B.A.**

The online master of business administration degree is an excellent choice for practitioners in the workforce who are seeking to advance their careers. This innovative program provides students with the opportunity to earn their degrees in two to six years from anywhere in the world.

The online model is primarily designed for those who are highly motivated and capable of balancing a full-time work schedule with online study. Courses facilitate information sharing outside the constraints of time and place among a network of people.

The online M.B.A. program follows the same curriculum as the part-time M.B.A. allowing students to move within the two models if they choose. Admission points are in late August and January. The program is asynchronous and students can log on at anytime during the week, adding to the flexibility of the online option.

#### **Highlights**

The online M.B.A. option allows students to earn an advanced degree from an AACSB-accredited institution in two to six years from anywhere in the world.

#### **Part-Time and Online M.B.A. Requirements**

Part-time (evening) and online students typically begin the program in the fall term, although January admission with a reduced course load may be possible. The degree is comprised of ten required core courses and six electives. ADMN 982 (Strategic Management) is the concluding experience. Students may petition to waive up to three core courses. A waiver is typically granted if the student possesses a major (five to six courses from an AACSB-accredited institution) in a core area earned within five years of matriculation, e.g., a student with a major in finance may petition to waive the M.B.A. core course in finance. The program is designed to permit students who begin in the fall to complete the degree in two years, although a reduced pace is also possible.

#### **Courses**

- Business Strategy
- Economics
- Financial Management
- Information Systems and Enterprise Integration
- Management Accounting
- Managerial Decision Making
- Marketing
- Operations Management
- Organizational Behavior
- Organizations, Leadership, and Environments
- Six electives

**New MBA Specializations**

**Launching in 2017**

A specialization is not required

Specialization courses will be open to all Paul College MBA students as electives

Some specialization courses will be available only online or in one physical location

Students who began program prior to August 2016 will have choice of old or new specializations

<b>Finance</b>		
	Required:	Corporate Financial Strategy
		Investments
	Select 1:	International Financial Management
		Applied Equity Analysis & Firm Valuation
		Applied Financial Modelling & Analytics
		Financial Innovation & Derivatives
<b>Information Systems Business Analytics</b>		
	Required:	Data Management
		Data Mining & Visualization
	Select 1:	Prescriptive Analytics
		Marketing Analytics
		Applied Financial Modelling & Analytics
<b>Marketing</b>		
	Required:	New Product Development
		Marketing Research
	Select 1:	Marketing Analytics
		Digital Marketing
		International Marketing
<b>Global Business</b>		
	Required:	International Business
	Select 2:	International Management

		International Financial Management
		International Marketing
<b>Growth &amp; Innovation</b>		
	Required:	Managing for Growth & Innovation
	Select 2:	Funding Growing Businesses
		Leading Organizational Change
		International Management
		New Product Development
<b>Hospitality Management (Hospitality industry experience recommended)</b>		
	Required:	Human Resources Management
		Hospitality Operations Implementation, Analysis & Financial Metrics
		Hospitality Asset and Financial Management
		Hospitality Revenue Management and Pricing Strategies

### Registration Policies

M.B.A. courses are primarily intended for matriculated students who have been admitted to the M.B.A. program. Other degree-seeking students and M.B.A. alumni may request permission to register for courses on a space-available basis.

Audit: Required M.B.A. core courses cannot accommodate auditors. Other degree-seeking students and M.B.A. alumni may request permission from the instructor to audit M.B.A. electives.

### Chemical Engineering (CHE) ▼

» <http://www.unh.edu/chemical-engineering/>

» [Click to view course offerings](#)

*This program is offered in Durham.*

*Assistant Professor: Nan Yi*

### Degrees Offered: M.Eng., M.S., Ph.D.

The Department of Chemical Engineering offers the M.Eng. degree, M.S. degree, and Ph.D. degree in chemical engineering. All levels include research opportunities in biofuels, biomedical engineering, biochemical engineering, electrochemical engineering,

tissue engineering, advanced materials, reaction engineering, energy, and environmental engineering.

### **M.Eng. Admission Requirements**

An applicant to the master of engineering program will have completed a baccalaureate degree in chemical engineering. Students with good undergraduate records but with deficiencies in certain areas may be admitted on condition that they complete specified courses without credit to make up for their deficiencies. Applicants must submit current scores (within five years) from the general test of the Graduate Record Examination. International students are required to submit TOEFL test scores. IELTS scores are accepted on a case-by-case basis, and students must have a minimum score of 6.5.

### **M.Eng. Degree Requirements**

A master of engineering degree is a professional degree for chemical engineers. A minimum of 30 credits, which must include Advanced Fluid Mechanics (CHE 913), Heat Transfer (CHE 915), Diffusive Mass Transfer (CHE 916), Advanced Chemical Engineering Thermodynamics (CHE 923), and Advanced Chemical Engineering Kinetics (CHE 932), is required for the master of engineering degree. An additional 12 credits of coursework are also required. These 12 credits can be made up of electives offered by the department or by the college. In addition, courses taken within the UNH School of Law and the Paul College of Business and Economics can apply with approval. The remaining 3 credits will be for faculty supervised projects (CHE 898).

### **M.S. Admission Requirements**

An applicant is expected to have completed a baccalaureate degree in chemical engineering. Students with good undergraduate records but with deficiencies in certain areas may be admitted on condition that they complete specified courses without credit to make up for their deficiencies. Applicants must submit current scores (within five years) from the general test of the Graduate Record Examination. International students are required to submit TOEFL test scores. IELTS scores are accepted on a case-by-case basis, and students must have a minimum score of 6.5.

### **M.S. Degree Requirements**

A minimum of 30 credits, which must include Advanced Fluid Mechanics (CHE 913), Heat Transfer (CHE 915), Diffusive Mass Transfer (CHE 916), Advanced Chemical Engineering Thermodynamics (CHE 923), and Advanced Chemical Engineering Kinetics (CHE 932), is required for the master of science in chemical engineering. These five core courses constitute 15 credits. The remaining 9 course credits can be made up of electives offered by the department or by the college. Students take electives after consulting with their adviser. A 6-credit thesis (CHE 899) is required.

### **Ph.D. Admission Requirements**

Students admitted to the Ph.D. program normally have a master's degree in chemical engineering. Exceptional students with a baccalaureate degree in chemical engineering are eligible for admission to the program. To be admitted, students must present evidence that they have a strong foundation in chemical engineering. Applicants must submit current scores (within five years) from the general test of the Graduate Record Examination. International students are required to submit TOEFL test scores. IELTS scores are accepted on a case-by-case basis, and students must have a minimum score of 6.5.

### **Ph.D. Degree Requirements**

PhD students will complete the following core chemical engineering courses: Advanced Fluid Mechanics (CHE 913), Advanced Heat Transfer (CHE 915), Advanced Diffusive Mass Transfer (CHE 916), Advanced Chemical Engineering Thermodynamics (CHE 923) and Advanced Chemical Engineering Kinetics (CHE 932). Those students admitted with a master's degree in chemical engineering are required to take an additional 3 courses at the 800- or 900- level to complete the course work requirements. Those students admitted with a baccalaureate degree in chemical engineering are required to complete an additional 6 courses at the 800- or 900- level to complete the course work requirement for the PhD. These elective courses will be chosen in consultation with the student's advisor.

Students in the PhD program are expected to complete the five required core courses within the first year of graduate study. After completion of the core courses, the graduate coordinator will administer a written qualifying exam on each of the core subjects. The graduate coordinator also conducts an annual review of each student's progress in the program. All course work, including electives, should be completed by the end of the second year of study and must be completed before the student can be advanced to candidacy.

To advance to candidacy, the student must prepare a research proposal, which is different from his/her PhD dissertation research, and defend the proposal in an oral examination before a doctoral guidance committee. After successful completion of the oral

qualifying examination, the student is advanced to candidacy and upon recommendation of the graduate coordinator, a doctoral dissertation committee is appointed by the dean of the graduate school. The doctoral dissertation committee supervises and approves the dissertation and administers the final dissertation defense.

There is no language requirement.

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## Chemistry (CHEM) ▼

» <http://www.unh.edu/chemistry/>

» [Click to view course offerings](#)

*This program is offered in Durham.*

*Assistant Professor: Marc Andrew Boudreau , Christine A. Caputo, Leila Deravi*

### **Degrees Offered: M.S., Ph.D.**

The Department of Chemistry offers programs leading to the doctor of philosophy and the master of science degrees in the areas of organic, inorganic, physical, and analytical chemistry. The department also offers a Ph.D. in Chemistry option in Chemistry Education.

### **Admission Requirements**

Admission to the master of science and the doctor of philosophy degrees is based upon a strong undergraduate record and requires satisfactory work in the usual undergraduate courses in inorganic chemistry, analytical chemistry, organic chemistry, and physical chemistry, as well as the normal supporting courses in mathematics and physics. Applicants are to submit GRE scores as a part of their admission application. Entering graduate students are expected to take proficiency examinations in chemistry to ensure they begin their graduate work at the appropriate level. These examinations will be offered the week prior to the opening of the Fall semester during the Department of Chemistry's graduate student orientation week.

### **M.S. Degree Requirements**

The master's degree requires completion of coursework appropriate to the student's field of study and the completion of a research problem presented in the form of a 6-10 credit thesis (CHEM 899). A minimum of 30 credit hours is required to earn the degree. Of the 20+ course credits, at least 8 credit hours must be in courses numbered 900 or above.

### **Ph.D. Degree Requirements**

This degree requires completion of coursework appropriate to the student's field of study and the completion of a research problem presented in the form of a dissertation. Students will also demonstrate to the guidance committee that they have a broad basic knowledge of the field of chemistry by completing certain fundamental graduate courses; by means of a series of examinations in the major field; and by presenting and defending an original research proposal before the end of the third year. Students who successfully complete these requirements will be advanced to candidacy. The dissertation will be based upon original research. When the dissertation is complete, the candidate will submit it to his/her doctoral committee. A public presentation of the dissertation will be followed by an oral defense of the work to the student's committee.

The Ph.D. degree program includes an option in chemistry education. Please contact the department for more information.

### **Interdisciplinary Programs in Chemistry**

Graduate students in chemistry may elect to enter one of the interdisciplinary programs offered jointly with the chemistry department and other departments. In these programs, the graduate student, with the advice of the guidance committee, elects courses in chemistry and in the related disciplines, and writes the dissertation on a research problem appropriate to the interdisciplinary research. Students interested in these programs should contact the Graduate Coordinator for further information.

### **Preparing Future Faculty (PFF)**

Students who desire a career in college-level teaching will follow their regular degree program in addition to meeting the university's PFF requirements. Please see the PFF website for more information: <http://www.gradschool.unh.edu/pff.php>.

## Teaching Requirement

All chemistry PhD and Master of Science degree candidates will obtain some teaching experience during their tenure.

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## Civil and Environmental Engineering (CIE) ▼

» <http://www.unh.edu/civil-engineering>

» [Click to view course offerings](#)

*This program is offered in Durham.*

## Degrees Offered: M.Eng., M.S., Ph.D.

The Department of Civil and Environmental Engineering offers the master of engineering degree in civil engineering, the master of science degree in civil engineering, and a Ph.D. degree in civil engineering with the following areas of specialization: structural, materials, geotechnical, water resources, and environmental engineering. Interested applicants are encouraged to visit the department website for information on current research in the department and to contact faculty members in their area of interest directly. The department website has information on program requirements and frequently asked questions. Applicants with questions not answered by the department or graduate school website should write to the graduate program coordinator for specific information.

## Admission Requirements

An applicant must have completed a baccalaureate science degree in engineering, mathematics, or science at an accredited college or university. If coursework or laboratory experience is deficient, an admitted student will be required to fulfill, without graduate credit, all undergraduate prerequisites for graduate courses. In some cases, the student's adviser may require additional undergraduate courses in order to achieve a well-integrated program of study. Applicants must submit current scores (within five years) from the general test of the GRE, unless waived by the graduate coordinator (for current UNH undergraduate civil engineering [CIE] or environmental engineering: municipal processes [ENE:MP] majors only).

## Degree Requirements

### M.Eng. Degree Requirements

All master of engineering degree students must complete a minimum of 30 total credits. UNH bachelor's degree students admitted to the Accelerated Master's Degree program may register for a maximum of 8 credits of graduate-level courses prior to completing their bachelor's degree. Such courses may upon recommendation of the department and approval of the Graduate School count toward both a bachelor's and master's degree. M.Eng. students are required to complete one of the following options as a concluding experience:

[Option A, Masters Project:](#) Students must complete a 3-credit master's project (CIE 888) on a civil engineering topic.

[Option B, Oral Exam:](#) Students must complete an oral exam. The oral exam does not count toward the number of required credits.

[Option C, Written Exam:](#) Students must complete a written exam. The written exam does not count toward the number of required credits.

The M.Eng. option is designed to facilitate completion of B.S./M.Eng. civil engineering degrees within five years. M.Eng. degree students are not eligible for an assistantship. For graduation, a grade of B- or better in each course, an overall B average (3.00 GPA), and successful completion of one of the above concluding experiences must be achieved.

## **M.S. Degree Requirements**

All master of science degree students must complete a minimum of 31 total credits that includes a minimum of 24 credit hours of regular coursework, 6 thesis credits and a one-credit seminar course. UNH bachelor's degree students admitted to the Accelerated Master's Program may register for a maximum of 8 credits of graduate-level courses prior to completing their bachelor's degree. Such courses may upon recommendation of the department and approval of the Graduate School count toward both a bachelor's and master's degree.

A formal oral presentation/thesis defense is required. All M.S. degree students are eligible for teaching or research assistantships and are required to register for Master's Student Seminar (CIE 900) for one semester. Students are required to make two presentations during their programs of study. For graduation, a grade of B- or better in each course, an overall B average (3.00 GPA), and a successful thesis defense must be achieved.

## **Ph.D. Degree Requirements**

Following admission into the program, a guidance committee is appointed for the student by the dean of the Graduate School upon recommendation of the advisor and graduate coordinator. This committee assists in outlining the student's course of study and may specify individual coursework requirements. The guidance committee administers the qualifying examination.

The student must pass a qualifying exam that includes both a written and an oral component. The content of the qualifying exam will be determined at the discretion of the guidance committee and will be based on the coursework (both graduate and undergraduate) completed to date. The qualifying exam is pass/fail. At the discretion of the guidance committee a student may conditionally pass the exam and be reevaluated after a specified time period. The qualifying exam must be completed within 18 months of admission for students that have a master's degree and within 30 months of admission for students that enter the PhD program with only a bachelor's degree.

**Course Credit Requirements:** The student must successfully complete at least 18 graded course credit hours beyond a master's degree or 36 graded course credit hours beyond a bachelor's degree. Additional course credits beyond these minimum levels may be required by the guidance committee.

**Requirements for Optional Minor:** An identifiable group of courses (9 credits minimum) in an area outside of the civil engineering department and approved by the guidance committee must be successfully completed to provide a minor to the Ph.D. degree. A minor may be satisfied by courses taken toward a master's degree other than civil engineering, but the credits will not be applied against the 18 or 36 credit-hour minimum.

**Professional Outreach Experience:** A minimum of one semester as a teaching assistant or comparable experience, or preparation and submission of article(s) to refereed journal(s), or presentations at professional meetings is required. The guidance committee will evaluate whether a student's past teaching assistantship satisfies this requirement.

**Doctoral Candidates:** Upon successful completion of the Ph.D. qualifying examination, a doctoral student is advanced to the status of doctoral candidate. When a student achieves candidacy, a doctoral committee is established. The doctoral committee reviews research, reviews the student's progress, supervises and approves the doctoral dissertation, and administers the final examination (also known as the dissertation defense). The student must present and defend a research proposal within 6 months of achieving candidacy and no sooner than one year prior to the dissertation defense.

Upon completion of the dissertation, and with the approval of the doctoral committee, the student schedules an oral defense in accordance with the requirements of the Graduate School. For graduation, a B average (3.00 GPA) and successful dissertation defense must be achieved.

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College Teaching (GRAD) ▼

» [http://www.unh.edu/teaching-excellence/Academic\\_prog\\_in\\_coll\\_teach/index.html](http://www.unh.edu/teaching-excellence/Academic_prog_in_coll_teach/index.html)

» [Click to view course offerings](#)

*This program is offered in Durham.*

### **Degree Offered: Cognate in College Teaching**

Cognate in College Teaching: The Cognate in College Teaching is open to graduate students in a doctoral program or a terminal master's degree program.

### **Certificate Offered: College Teaching**

Certificate in College Teaching: Certificate is open to current faculty members, post-docs, and doctoral students enrolled at institutions other than UNH.

The College Teaching Program prepares graduate students for academic teaching positions, and students are ready to teach in their field or discipline upon completion of program requirements. The transfer and relationship between theory and research and instructional practice is emphasized in all courses.

This is a University-wide program coordinated by the Office of the Dean of the Graduate School and involving the Center for Excellence in Teaching and Learning as well as faculty members from many fields and disciplines. Two academic programs are offered: the cognate in college teaching and the certificate in college teaching.

### **Admission Requirements**

Applicants to the cognate program must have completed one year in a doctoral program at UNH and have the support and recommendation of their doctoral program coordinator.

Test Scores: None

New England Regional: No

### **Degree Requirements**

#### **Cognate in College Teaching Requirements**

The Cognate in College Teaching offers a series of core and elective courses to prepare individuals to teach at institutions of higher education. The Cognate is available to doctoral students and students in selected master's degree programs at UNH.

Students must apply and be formally admitted to the program. The Cognate appears as a minor on the student's transcript, and is awarded concurrently with the PhD or Master's degree.

All courses must be taken at UNH.

<b>Core Courses – 8 credits</b>	<b>Mode</b>	<b>Time</b>	<b>Credits</b>
GRAD 950 Issues in College Teaching	Face to face	Summer	2
GRAD 951 Teaching with Writing	Face to face	Summer	2
GRAD 961 Cognition, Teaching, and Learning	Online	Summer	2
GRAD 965 Classroom Research and Assessment Methods	Online	Summer	2
<b>Electives –4 credits</b>			
GRAD 930 Ethics in Research and Scholarship	Face to face	AY	2 or 3
GRAD 963 College Students and the Undergraduate Culture	Face to face	Summer – every other year	2
GRAD 970 Special Topics in College Teaching:	Online	AY or Summer – not	2



Teaching Online		offered every year	
GRAD 971 Teaching and Learning in Science	Face to face	AY – not offered every year	3 or 4
GRAD 995 Independent Study	TBA	AY or Summer – permission required	1 or 2
With prior approval from the College Teaching Director, the appropriate course(s) or seminar(s) on teaching in a particular discipline (e.g., history, economics, psychology, etc.)	Face to face	AY	Variable
GRAD 998 College Teaching Portfolio	TBA	Summer or AY	1

Students must create a 1 credit electronic teaching portfolio and have it approved by the directors of the Center for Excellence in Teaching and Learning.

### Graduate Certificate in College Teaching

This program requires the satisfactory completion of 12 academic credits. The certificate is available to anyone with a bachelor's degree and above who is interested in preparing for a college teaching career. Requirements include 8 credits in core courses and 4 credits in elective courses.

#### Core Courses, 8 credits

GRAD 950, Issues in College Teaching, 2 cr.

GRAD 951, Teaching with Writing, 2 cr.

GRAD 961, Cognition, Teaching, and Learning, 2 cr.

GRAD 965, Classroom Research and Assessment Methods, 2 cr.

#### Electives, minimum of 4 cr.

GRAD 930, Ethics in Research and Scholarship, 2 or 3 cr.

GRAD 963, College Students and the Undergraduate Culture, 2 cr.

GRAD 970, Special Topics in College Teaching: Teaching Online, 2 cr.

GRAD 971, Teaching and Learning in Science, 3 or 4 cr.

GRAD 995, Independent Study, 1 or 2 cr.

## Communication Sciences and Disorders (COMM) ▼

» <http://www.chhs.unh.edu/csd/index>

» [Click to view course offerings](#)

*This program is offered in Durham.*

*Associate Professor:* Steven P. Bornstein

*Clinical Associate Professor:* Jeanne H. O'Sullivan, Amy S. Plante, Rae M. Sonnenmeier

*Clinical Assistant Professor:* Sheryl Gottwald, Mary Jane Sullivan

### Degree Offered: M.S.

The Department of Communications Sciences and Disorders offers a master of science degree. Students are prepared to practice in a variety of job settings within the field of speech-language pathology and to meet the academic and practicum requirements of the American Speech-Language-Hearing Association (ASHA) for the certificate of clinical competence in speech-language pathology. The program is accredited by the Council on Academic Accreditation of ASHA.

The graduate program integrates an array of academic and clinical experiences to prepare students for a variety of careers in speech-language pathology. The program offers a master of science degree program in communications sciences and disorders. Students can elect to self-design their program, choosing from an array of required and elective courses that best suit their career objectives. This is referred to as the "no option" concentration. Three additional options, language/literacy disabilities, adult neurogenic communication disorders, and early childhood, are available to those students seeking particular expertise in one of

these areas. Irrespective of which of the three options students select, the program of study will prepare them to treat the full range of communication disabilities across the life span.

Faculty and students are actively engaged in research activities. Their projects include examinations of the efficacy of language intervention for adults with aphasia, management of motor speech deficits, functional outcomes of augmentative and alternative communication, role of communication in fostering inclusive education, relationships between language and literacy, and ways of enhancing the process of clinical supervision.

## Application Requirements

Deadlines: Applications must be completed by February 1st.

In lieu of the Graduate School personal statement, each applicant must respond to the following in no more than a total of two pages.

1. Describe yourself. We are interested in learning about you as a person.
2. Where do you see yourself professionally five years from now? Ten years from now?
3. What one issue in the field of communication sciences and disorders interests you most at this point your educational development? Why?

Applications are not acted upon by the Communication Sciences and Disorders Department until all required documents have been received by the Graduate School. It is the student's responsibility to check with the Graduate School to ensure that all required documents have been received and the application is complete by the February 1st deadline.

For additional information regarding the application process, check the [University of New Hampshire Graduate School](#).

## Admission Requirements

Applicants for admission must possess a bachelor's degree prior to beginning the master's program. The following courses, or their equivalents, are prerequisites:

- Anatomy and Physiology of the Speech and Hearing Mechanism
- Language Acquisition
- Clinical Phonetics
- Basic Audiology
- Speech-Hearing Science

Two courses (Aural Rehabilitation and Neurology) may be taken at either the undergraduate level or as part of the master's program. In most cases, taking these courses as part of the master's program will not increase the number of courses in the program.

Applicants must also complete coursework in typical human development, statistics, and both biological and physical sciences (chemistry or physics) in preparation for fulfillment of ASHA requirements.

Applicants with degrees in fields other than CSD may be admitted to the program as *provisional students*, with the expectation that they will complete the all prerequisites prior to, or concurrent with, graduate courses.

Acceptance to the communications sciences and disorders program is based primarily on grade-point average, GRE scores, and written statement. Applicants must submit current scores of the **GRE revised General Test**. Generally, students have earned a minimum grade-point average of 3.6 and GRE scores at the 50th percentile or better to be considered for admission. Letters of recommendation are considered for the awarding of scholarships, assistantships, and other sources of support.

## M.S. Degree Requirements

Four options are offered: "no option" or generalist option; option in language/literacy disorders; option in early childhood communication disorders; and option in adult neurogenic communication disorders. Regardless of the option selected, students will complete a combination of core, required, and elective courses to earn a minimum of 61 credits. See course descriptions for a list of all CSD graduate courses.

**The following core courses are required of all students:**

COMM 876, Ethics/Professional Issues in Speech Language Pathology, 1 cr.  
COMM 880, Diagnosis of Speech and Language Disorders, 3 cr.  
COMM 890, Advanced Audiology for Speech Language Pathologists, 3 cr.  
COMM 903, Therapy Process, 2 cr.  
COMM 910, Practicum, 4 cr. [1 credit each semester years one and two]  
COMM 911, Externship, 8 cr. [4 cr. fall of year two, 4 cr. spring of year two]  
COMM 914, Augmentative and Alternative Communication  
COMM 917, Research Methods, 3 cr.  
COMM 915, Counseling Clients and Families with Communication Disorders, 2 cr.

In addition to the academic and clinical requirements, the UNH Department of Communication Sciences & Disorders implemented an Essential Functions Policy on June 7, 2010. This policy identifies basic communication, motor, cognitive, sensory, and behavioral-social abilities that are necessary for completion of our master's program and professional practice. Some of these abilities should be in place when students begin the program, while others will be developed throughout the program.

Early each fall, the Essential Functions Policy will be reviewed with new students beginning our program. Students are expected to sign that they have reviewed and understand the policy and will follow the stated guidelines. For additional information about the graduate program, see the [Handbook for Graduate Students and Practicum Manual](#).

### **No Option or Generalist Option**

This option prepares students for professional practice as a generalist. Students design a course of study that matches their career goals. Practicum experiences in educational, rehabilitative, and private practice settings are available to enhance applied learning. Upon completion of coursework and clinical training, students are prepared to provide clinical services to individuals of all ages who face communication challenges.

#### ***In addition to the core courses, required courses for this option are:***

COMM 900, Articulatory and Phonological Disorders in Children, 3 cr.  
COMM 901, Dysphagia, 3 cr.  
COMM 902, Stuttering, 3 cr.  
COMM 905, Motor Speech Disorders, 3 cr.  
COMM 906, Voice Disorders, 2 cr.

#### ***Students will also select 6 elective courses from the following:***

COMM 875, Advanced Language Acquisition, 3 cr.  
COMM 904, Aphasia in Adults, 3 cr.  
COMM 907, Advanced Seminar in Aural Rehabilitation, 3 cr.  
COMM 908, Disorders of Language/Literacy I, 3 cr.  
COMM 891, Neurology for Speech-Language Pathologists  
COMM 909, Disorders of Language/Literacy II, 3 cr.  
COMM 912, Language Disorders Birth to Five, 3 cr.  
COMM 913, Cognitive Communication Disorders, 3 cr.  
COMM 916, Autism Spectrum Disorders, 3 cr.  
COMM 920, Graduate Seminar

Other approved courses outside the department.

### **Option in Language Literacy Disabilities**

This option prepares students for professional practice in the diagnosis and treatment of language-based learning disorders in school age children. Students learn theory and practice in oral language as it relates to literacy acquisition and learning in the content areas. Practicum experiences in schools are available to enhance applied understanding. Upon graduating, students are equipped to meet the challenge of diagnosing and managing an array of language-based learning disabilities as team members alongside their professional colleagues in regular education, reading education, and learning disabilities. Those interested in obtaining dual certification in reading education and speech-language pathology are encouraged to contact the Education Department.

#### ***In addition to the core courses, required courses for this option are:***

COMM 875, Advanced Language Acquisition, 3 cr.  
COMM 900, Articulatory and Phonological Disorders in Children, 3 cr.  
COMM 901, Dysphagia, 3 cr.  
COMM 902, Stuttering, 3 cr.  
COMM 905, Motor Speech Disorders, 3 cr.

COMM 906, Voice Disorders, 2 cr.  
COMM 908, Disorders of Language/Literacy I, 3 cr.  
COMM 909, Disorders of Language/Literacy II, 3 cr.  
COMM 912, Language Disorders Birth to Five, 3 cr.

***Students will also take two elective courses from the following:***

COMM 891, Neurology for Speech-Language Pathologists  
COMM 904, Aphasia in Adults, 3 cr.  
COMM 907, Advanced Seminar in Aural Rehabilitation, 3 cr.  
EDUC 907, Foundations of Literacy Instruction, 4 cr.  
COMM 913, Cognitive Communication, 3 to 4 cr.  
COMM 916, Autism Spectrum Disorders, 3 cr.  
COMM 920, Graduate Seminar, 3 cr.

Other approved courses outside the department.

**Option in Early Childhood Communication Disorders**

This option prepares students for professional practice in the diagnosis and treatment of early childhood communication disorders in young children. Students learn theory and practice for a variety of speech-language-communication-swallowing disorders typically seen in babies through early elementary age children. An essential component of this option is supporting families of young children with communication disorders. Practicum experiences in educational and pediatric rehabilitative settings, early intervention centers, and private practice are available to enhance applied learning. Upon completion of coursework and clinical training, students are prepared to diagnose and treat a wide array of early childhood speech-language-communication-feeding disorders and collaborate with their professional colleagues in educational and rehabilitative teams.

***In addition to the core courses, required courses for this option are:***

COMM 900, Articulatory and Phonological Disorders in Children, 3 cr.  
COMM 901, Dysphagia, 3 cr.  
COMM 902, Stuttering, 3 cr.  
COMM 905, Motor Speech Disorders, 3 cr.  
COMM 906, Voice Disorders, 2 cr.  
COMM 908, Language/Literacy Disorders I, 3 cr.  
COMM 912, Language Disorders Birth to Five, 3 cr.  
COMM 916, Autism Spectrum Disorders, 3 cr.  
EDUC 856, Supporting Families of Students with Special Needs, 4 cr.

***Students will also take two elective courses from the following:***

COMM 875, Advanced Language Acquisition, 3 cr.  
COMM 904, Aphasia in Adults, 3 cr.  
COMM 907, Advanced Seminar in Aural Rehabilitation, 3 cr.  
COMM 909, Language/Literacy Disorders II, 3 cr.  
COMM 913, Cognitive Communication Disorders, 3 cr.  
COMM 920, Graduate Seminar  
EDUC 941, Diversity and Child Development, 4 cr.  
HHS 898, Neurodevelopmental and Related Disorders, 1 to 8 cr.

Other approved courses outside the department.

**Option in Adult Neurogenic Communication Disorders**

This option prepares students for clinical practice in the diagnosis and treatment of neurogenic communication disorders in adults. Students receive extensive training in the theories and processes of brain dysfunction (e.g., stroke, acquired brain injury, dementia, and other progressive diseases) as well as the current practices in the application of neurorehabilitation management. Practicum placements in medical and rehabilitative facilities provide applied experience to enhance learning. Upon completion of the coursework and clinical training, students are prepared to provide speech-language pathology services for a wide array of neurogenic communication disorders (i.e., acquired impairment in language, speech, and cognition) and collaborate as a contributing member with other professionals in medical and rehabilitation teams.

***In addition to the core courses, required courses for this option are:***

COMM 900, Articulatory and Phonological Disorders in Children, 3 cr.  
COMM 901, Dysphagia, 3 cr.  
COMM 902, Stuttering, 3 cr.  
COMM 904, Aphasia, 3 cr.  
COMM 905, Motor Speech Disorders, 3 cr.  
COMM 906, Voice Disorders, 3 cr.  
COMM 908 or 912, Disorders of Language/Literacy I or Language Disorders Birth to Five, 3 cr.  
COMM 913, Cognitive-Communication Disorders, 3 cr.

**Students will also take three elective courses from the following:**

COMM 875, Advanced Language Acquisition, 3 cr.  
COMM 891, Neurology for Speech-Language Pathologists  
COMM 907, Advanced Aural Rehab, 3 cr.  
COMM 908, Language Literacy Disorders I, 3 cr. [if not chosen in required category]  
COMM 909, Disorders of Language/Literacy II, 3 cr.  
COMM 912, Language Disorders Birth to Five, 3 cr. [if not chosen in required category]  
COMM 916, Autism Spectrum Disorders, 3 cr.  
COMM 920, Graduate Seminar [advanced medical options]  
PSYCH 914, Advanced Seminar in Cognition, 3 cr.

Other approved courses outside the department.

### **Clinical Practicum**

All students are required to complete four practicum rotations and two externships during their graduate studies. Practicum assignments take place at the UNH [Speech-Language-Hearing Center](#) (SLHC) and University-supervised satellite programs. Externships are available at a broad range of department-approved settings, including public and private schools, language-based preschool programs, early intervention programs, health care settings, and private practices. UNH requires students to have 15 documented observation hours prior to the start of clinical work.

During fall and spring semesters of year 1, students complete clinical work that directly and simultaneously corresponds to coursework. Clinical assignments are completed at the UNH SLHC as well as University-supervised satellite programs. During year 2, students complete two semesters of diagnostic clinic at the UNH SLHC along with two externships at two different settings. Students shall participate in at least one externship that corresponds to their selected option in order to develop clinical skills in their area of interest. Since the UNH CSD Graduate Program is a full-time program, we expect students to be available for clinical assignments when not in class.

Students are responsible for transportation to satellite programs, externships, and other community learning experiences. Practicum sites may require a physical, including a tuberculin test; proof of immunizations such as poliomyelitis, rubella and hepatitis; health insurance; and drug/urine testing. In addition, students are responsible for meeting the criminal record clearances established by the practicum site. Failure to pass required medical and other clearance checks could render a student ineligible for a practicum assignment and thus unable to complete program requirements.

To learn more about the available externships, see the [CSD Externship Database](#).

### **Capstone Experience**

The capstone experience is divided into two phases:

#### **Phase I: Year-One Comprehensive Exam**

Phase I is a comprehensive exam scheduled at the end of the first year of graduate study. For the year-one comprehensive exam, all students will write for three hours, answering three out of four integrated questions addressing content specific to the first year.

#### **Phase II: Year-Two Comprehensive Exam or Thesis**

##### **Year-Two Comprehensive Exam (non-thesis)**

All students except those writing a thesis must pass a year-two comprehensive exam designed to assess their mastery of the full two-year curriculum. Students will write for six hours, answering six out of eight integrated questions. Students who have selected either the Early Childhood Communication Disorders, Language/Literacy Disorders, or the Adult Neurogenic Communication Disorders options are required to respond to one question specific to their course of study during the year-two comprehensive exam.

## Thesis

Students may choose to write a thesis in lieu of the year-two comprehensive exam. Upon completion of an original research project, students must defend the thesis in an oral examination and must gain approval of the thesis committee. In addition to required coursework, students must register for 6 credits of COMM 899.

## Courses

Abbreviation	Course Number	Title	Credits
COMM	875	Advanced Language Acquisition	3
COMM	876	Ethical and Professional Issues in Communication Sciences and Disorders	1
COMM	880	Diagnosis of Speech and Language Disorders	3
COMM	890	Advanced Audiology for Speech-Language Pathologists	3
COMM	891	Neurology for Speech-Language Pathologists	3
COMM	895	Special Topics	1 to 3
COMM	899	Master's Thesis	1 to 6
COMM	900	Articulatory and Phonological Disorders in Children	3
COMM	901	Dysphagia	3
COMM	902	Stuttering	3
COMM	903	Therapy Process	2
COMM	904	Aphasia in Adults	3
COMM	905	Motor Speech Disorders	3
COMM	906	Voice Disorders	2
COMM	907	Advanced Seminar in Aural Rehabilitation	3
COMM	908	Disorders of Language and Literacy I	3
COMM	909	Disorders of Language and Literacy II	3
COMM	910	Practicum	1 per semester
COMM	911	Externship	4 per semester
COMM	912	Language Disorders Birth to Five	3
COMM	913	Cognitive Communication Disorders	3
COMM	914	Augmentative and Alternative Communication	3 to 4
COMM	915	Counseling Clients and Families with Communication Disorders	2
COMM	916	Autism Spectrum Disorders	3
COMM	917	Research Methods in Communication Sciences and Disorders	3
COMM	920	Graduate Seminar	1 to 6

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## Community Development Policy and Practice (DPP) ▼

» <http://carsey.unh.edu/macdpp>

» [Click to view course offerings](#)

*This program is offered in Durham.*

*Professor:* Rosemary M. Caron, Andrew B. Conroy, Kevin H. Gardner, Curt D. Grimm, Clayton R. Mitchell, Jolan Rivera, Michael Swack

*Clinical Associate Professor:* Fiona Sara Wilson

*Clinical Assistant Professor:* William O. Maddocks

*Extension Professor:* Charles A. French

**Degree Offered: M.A.**

The **Master of Arts in Community Development Policy and Practice** is a program that prepares individuals for advanced policy- and practice-oriented sustainable development work within the United States and internationally. Those with the passion and desire to have a greater impact in their communities need the critical knowledge and proven skills to effect the changes demanded by today's rapidly changing world. Suited for community development practitioners and those transitioning into the field, students can choose to complete the program in 14 or 24 months with short, in-person terms during the summer followed by interactive online courses during the fall through spring terms. Students directly apply what they learn in the classroom by carrying out a yearlong project within their communities, developing a valuable toolkit that meets the gold standard in project management, from design to evaluation methodologies.

### Objectives

1. Educate community development practitioners working in non-profit organizations, non-governmental organizations, community-based organizations, government agencies, and private corporations, using a peer-based learning framework
2. Promote innovative approaches to development policy and practice, identifying those that can increase the effectiveness of community development practitioners
3. Expose community development practitioners to local and global trends
4. Using state-of-the-art communication technologies, connect practitioners to each other and to participants in similar programs across the globe

### Program Overview and Topics of Study

Students in the **Master of Arts in Community Development Policy and Practice** program will:

1. Develop interdisciplinary knowledge and skills through a combination of core courses designed to integrate theory, policy, as well as data collection and analysis
2. Acquire an understanding of complex development issues and problems through a set of electives spanning engineering, natural sciences, public health, management, and social sciences
3. Apply your classroom learning to real-world situations, by carrying out a [four-term field project](#) in your home community

#### Management

- Project Design through Evaluation
- Organization Management
- Budgeting & Financial Management
- Human Resource Management
- Leadership
- Negotiation & Communication

#### Policy & Social Sciences

- Economics
- Policy Analysis
- Community Development
- Social Enterprise
- Research Methodologies

#### Natural Sciences & Engineering

- Infrastructure
- Agriculture & Forestry
- Water Management
- Energy
- Climate & Environmental Sciences

#### Health Sciences

- Global Health & Community Medicine
- Nutrition
- Reproductive Health
- Fundamental Epidemiology
- Population Sciences

### Program Highlights

A unique feature of this program is that students can continue working while earning their degree. This meets the practical needs of both students and their employers, enabling participants to join an exciting advanced degree program that will enhance their performance and their commitment to work. Students will gain an array of skills that will help them more effectively meet the challenges in their development sectors. They will also develop a network of peers and advisers to continue to inform and inspire them.

#### Flexible Program Format:

- 14-month or 24-month options

- Ideal for Working Professionals:**
  - Short in-person summer terms with interactive online courses fall through spring terms
- Capstone Project:**
  - Apply what you learn through a yearlong community project
- Expert Faculty:**
  - Learn from actively engaged and experienced field practitioners
- Small Classes:**
  - Learn from professors and peers in a small group-learning environment

Sustainable community development begins with strong leadership, and students graduate with the knowledge, skills, and experience required to qualify for management positions within non-profit, non-governmental and community-based organizations in addition to government agencies and private corporations.

**Recent Graduate Profiles**

A sample of recent graduates who now work in the following positions and organizations:

- Policy Analyst, Oregon Center for Public Policy
- Executive Director, AIDS Programs of Canada
- Director, Paso Pacifico, Nicaragua
- Legislative Aide, Alaska
- Rotational Environmental Analyst, NEIWPC
- Director of Cultural Competency and Global Diversity, Hun School of Princeton
- Regional Refugee Coordinator, Kansas Department of Children and Families
- Principal Consultant, Curtis & Associates, Australia

**Admission Requirements**

The following chart summarizes what is required for application to the **Master of Arts in Community Development Policy and Practice** program.

Application Requirements	Description
<b>Application Method</b>	Must be submitted <a href="#">online</a>
<b>Application Deadline*</b>	March 15 for Summer Term Start June 1 for Fall Term Start November 15 for Spring Term Start
<b>Application Fee</b>	\$65 USD
<b>Letters of Reference</b>	Three (3) academic or professional letters of reference are required (submitted online)
<b>Resume</b>	A current resume must be emailed to <a href="mailto:grad.docs@unh.edu">grad.docs@unh.edu</a> .
<b>Personal Statement</b>	A short personal statement including relevant past experiences (academics, research, and/or work experience), areas of interest, and goals in pursuing a master's degree. Please email to <a href="mailto:grad.docs@unh.edu">grad.docs@unh.edu</a> .



<b>Undergraduate Degree</b>	B.A., B.S., or equivalent is required from an accredited university.
<b>Transcripts</b>	One set of official transcripts should be sent directly to the UNH Graduate School from each college/university you attended (2 semesters+).
<b>GRE</b>	Not required. Can be submitted if you wish.
<b>TOEFL</b>	Only required if English is not your first language (please note that waiving the TOEFL requirement requires submitting a request; instructions for this are available here: <a href="http://gradschool.unh.edu/test_scores.php#wavers">http://gradschool.unh.edu/test_scores.php#wavers</a> )
<b>New Hampshire Residency Form</b>	Only required if you are a New Hampshire resident and wish to take advantage of the in-state discounted tuition.

\*While applications received after the deadline may be considered, to receive priority consideration for financial aid, please submit your application by the deadline. Please check with the [UNH Graduate School](#) for graduate financial aid deadlines.

## Degree Requirements

### Degree Requirements

In order to earn the master's degree, students must complete fourteen courses (equivalent to 39 credits), including the four-term project requirement, with a GPA of 3.0 or higher. Eleven of the thirteen courses are required courses, while the remaining three are elective courses.

### Course of Study

The **Master of Arts in Community Development Policy and Practice** program is structured around four competency areas:

- Management* — including project design, management and evaluation, policy analysis, organizational management, budgeting and financial management, human resource management, leadership, negotiations, and communication
- Health sciences* — including health policy, health systems design and management, nutrition, population sciences, and reproductive health and basic epidemiology of infectious and noninfectious diseases
- Social sciences* — including economics, anthropology, sociology, political science, and research methodologies
- Natural sciences and engineering* — including agriculture, forestry, water management, energy, and climate and environmental sciences

Successful practitioners must be able to perceive problems from multiple points of view and through a variety of cultural lenses, including traditional academic and policy perspectives, as well as those of the communities and individuals to be served. Viewed in this way, neither traditional approaches (which emphasize theory and disciplinary academic content) nor “pedagogical inversions” (which give primacy to engagement and practice while deemphasizing theory and policy) create well-rounded community development practitioners. The program will examine each of the core disciplinary areas within the cross-cutting lenses of theory, policy, data collection and analysis, and practice.

### Core Curriculum

The curriculum is a series of courses designed to help students develop and strengthen interdisciplinary breadth and communication and to build program identity and a sense of community. All courses are 3-credit courses. The eleven required courses comprise 30 credits in total, with an additional three elective courses (9 credits) for a total of 39 credits.

The sequence by which students take the eleven required and three elective courses depends on the amount of time that they plan to take to complete the degree.

### Program Duration: 14 or 24 Months

Students can choose to complete the program in 14 or 24 months. The 14-Month program requires a summer term start (in person) followed by two online courses for both the fall and spring terms and concludes after the second, summer term on campus.

<b>14-Month Program (Summer Start Only)</b>			
<b>Summer</b> (On Campus) 3+ Weeks (June)	<b>Fall</b> (Online) 16 Weeks (Sept-Dec)	<b>Optional J-Term</b> (Online) 3 Weeks (January)	<b>Spring</b> (Online) 16 Weeks (Feb-May)
<b>Year 1</b>			
4 Required Courses + 1 or 2 Electives	2 Required Courses	1 Elective Course (Optional)	2 Required Courses
<b>Year 2</b>			
3 Required Courses + 1 or 2 Electives			

Students wishing to take a lighter online course load during the fall and spring terms or wishing to start the program in the fall or spring, can choose to enroll in the 24-Month program.

<b>24-Month Program (Summer Start)</b>			
<b>Summer</b> (On Campus) 3+ Weeks (June)	<b>Fall</b> (Online) 16 Weeks (Sept-Dec)	<b>Optional J-Term</b> (Online) 3 Weeks (January)	<b>Spring</b> (Online) 16 Weeks (Feb-May)
<b>Year 1</b>			
4 Required Courses + 1 or 2 Electives	1 Required Course	1 Elective Course (Optional)	1 Required Course
<b>Year 2</b>			
3 Required Courses + 1 or 2 Electives	1 Required Course	1 Elective Course (Optional)	1 Required Course

## 24-Month Program (Fall Start)

<b>Fall</b> (Online) 16 Weeks (Sept-Dec)	<b>Optional J-Term</b> (Online) 3 Weeks (January)	<b>Spring</b> (Online) 16 Weeks (Feb-May)	<b>Summer</b> (On Campus) 3+ Weeks (June)
<b>Year 1</b>			
1 Required Course	1 Elective Course (Optional)	1 Required Course	4 Required Courses + 1 or 2 Electives
<b>Year 2</b>			
1 Required Course	1 Elective Course (Optional)	1 Required Course	3 Required Courses + 1 or 2 Electives

## 24-Month Program (Spring Start)

<b>Spring</b> (Online) 16 Weeks (Feb-May)	<b>Summer</b> (On Campus) 3+ Weeks (June)	<b>Fall</b> (Online) 16 Weeks (Sept-Dec)	<b>Optional J-Term</b> (Online) 3 Weeks (January)
<b>Year 1</b>			
1 Required Course	4 Required Courses + 1 or 2 Electives	1 Required Course	1 Elective Course (Optional)
<b>Year 2</b>			
1 Required Course	3 Required Courses + 1 or 2 Electives	1 Required Course	1 Elective Course (Optional)

### Required Courses

Students are required to take eleven required courses. These courses are offered during the summer terms (on-campus in Durham) and online during the fall and spring terms. Below is a list of all required courses:

- [Economic Analysis for Development - DPP 902](#)
- [Environmental Factors in Development Practice - DPP 911](#)
- [Fiscal Management for Development Organizations - DPP 905](#)
- [Integrative Approaches to Development Policy and Practice - DPP 901](#)
- [Leadership and Development - DPP 910](#)
- [Organizational Management and Leadership - DPP 906](#)
- [Policy Analysis, Policy Making and Sustainable Development - DPP 908](#)
- [Project Design - DPP 980](#)
- [Project Implementation - DPP 981](#)
- [Project Management - DPP 982](#)
- [Project Monitoring and Evaluation - DPP 983](#)

## Elective Courses

Students are required to take three elective courses. These courses are offered during the summer terms (on-campus in Durham) and the winter/J term (online for three weeks in January). At least two elective courses will be offered during each summer term, and one elective course during the winter/J term. Below is a list of elective courses.

[Balancing Resource Management, Land Use, and Development - DPP 952](#)  
[Community Development Finance - DPP 961](#)  
[Community Medicine and Epidemiology - DPP 953](#)  
[Current Issues in Microfinance and Microenterprise Development - DPP 950](#)  
[Environmental Sciences and Infrastructure for Sustainable Communities and Development - DPP 909](#)  
[Environmental Sustainability and Development - DPP 904](#)  
[Financing Development - DPP 958](#)  
[Global Health - DPP 903](#)  
[Housing Development - DPP 956](#)  
[Independent Study - DPP 990](#)  
[Negotiation Strategies - DPP 957](#)  
[Nuts and Bolts of Microfinance - DPP 951](#)  
[Public Safety and Community Development - DPP 962](#)  
[Sexuality and HIV/AIDS in Sub-Saharan Africa - DPP 955](#)  
[Social Enterprise - DPP 960](#)  
[Sustainable Agriculture and Food Systems - DPP 954](#)  
[Sustainable Engineering for Development Practice - DPP 907](#)  
[Workforce Development - DPP 959](#)

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## Computer Science (CS) ▼

» <http://www.cs.unh.edu>

» [Click to view course offerings](#)

*This program is offered in Durham.*

### Degrees Offered: M.S., Ph.D.,

The Department of Computer Science offers both the M.S. and the Ph.D. in computer science.

The M.S. program is designed to help students increase the breadth and depth of their computer science knowledge, strengthen their software development skills, and build their research skills. Professionally-oriented students often complete industry internships, and the program has an outstanding job placement record for its graduates. Research-oriented students complete an M.S. thesis under the guidance of a faculty mentor, which usually leads to publication and provides clear evidence of the developed research skills useful for obtaining a leadership position in industry or to go on to do a Ph.D. Applications are welcomed from students whose undergraduate degree is not in computer science. In this case, a well-defined set of undergraduate prerequisites must be completed as part of the M.S. program of study.

The Ph.D. program is designed to develop a student's ability to carry out advanced research, as well as ensure the breadth and depth of computer science knowledge required to obtain a faculty position in academia or a research position in industry or at a national laboratory. Students first work to obtain breadth knowledge and a faculty research mentor. Then, working with their mentor, they carry out advanced work that results in original research publications and a doctoral dissertation.

### Admission Requirements

The computer science graduate program is designed for students with a B.S. degree in computer science. However, applications from students whose undergraduate degree is not in computer science are also welcome. In this case, a well-defined set of undergraduate prerequisites must be completed as part of the M.S. program of study. The prerequisites include an introduction to computer science, object-oriented programming, data structures, machine organization, operating systems, and computer science theory.

These prerequisites can be satisfied at UNH by the following undergraduate courses:

CS 415, Introduction to Computer Science I  
CS 416, Introduction to Computer Science II  
CS 515, Data Structures  
CS 520, Assembly Language Programming and Machine Organization  
CS 620, Operating System Fundamentals  
CS 659, Introduction to the Theory of Computation  
Some students may need to take additional mathematics classes.

Students without a B.S. or M.S. in computer science are not normally admitted directly into the Ph.D. program, but it is possible to transfer from the M.S. program to the Ph.D. program.

Applicants must submit current scores (within five years) for the general test of the GRE. Students who have taken computer science courses at UNH can request a waiver of this requirement.

## **Degree Requirements**

### **M.S. Degree Requirements**

The M.S. program has three options: thesis, project, and exam.

#### **M.S. Thesis Option**

1. CS 900 (1 credit), Computer Science Seminar.
2. Eight CS graduate courses of at least 3 credits each.
  - a. Two must be implementation intensive (see list below).
  - b. Three courses must be chosen from three different breadth groups (see list below).
  - c. At least two courses must be above 900.
3. Thesis (6 credits of CS 899). The student must complete a thesis under the supervision of a thesis adviser and a thesis committee of at least three members.

#### **M.S. Project Option**

1. CS 900 (1 credit), Computer Science Seminar.
2. Ten CS graduate courses of at least 3 credits each.
  - a. Two must be implementation intensive (see list below).
  - b. Four courses must be chosen from four different breadth groups (see list below).
  - c. At least three courses must be above 900; one of these must be related to the project area.
3. Project (3 credits). The student must complete a project under the supervision of a faculty adviser.

#### **M.S. Exam Option**

1. CS 900 (1 credit), Computer Science Seminar.
2. Ten CS graduate courses of at least 3 credits each.
  - a. Two must be implementation intensive (see list below).
  - b. Four courses must be chosen from four different breadth groups (see list below).
  - c. At least three courses must be above 900.
3. Comprehensive exam that includes four different examination topics (see list below).

One topic must be selected from one of the topics in the Theory breadth group (see list below); the other three topics must be selected from three different breadth groups (which can include a second theory topic).

### **Ph.D. Degree Requirements**

1. CS 900, Computer Science Seminar.

2. Seven CS graduate courses (of at least 3 credits each) beyond the M.S. or fifteen CS graduate courses beyond the B.S.
  - a. Two must be implementation intensive (see list below).
  - b. All students must take CS 845, Formal Specification and Verification of Software Systems.
3. Breadth requirement. Courses must be taken from at least four breadth groups (see list below), with one of the groups being the Theory group. Students must obtain a 3.4 GPA in the four breadth courses. The student designates which four courses are used to compute the GPA.
4. Research tool. A research tool represents knowledge and skills in another discipline that can help the student carry out his or her research plan. This is typically satisfied by taking a non-computer-science graduate level course.
5. Depth requirement. Under the direction of a depth adviser and a depth committee, the student carries out some preliminary research that is likely to lead to a dissertation topic. The student must produce two written reports (a literature survey and a research report) and make a presentation as part of an oral examination on the material. After the student has successfully completed the depth exam and has satisfied the research tool requirement, the student is advanced to candidacy.
6. Dissertation. The student must complete original research and present and defend a dissertation describing that research. The research is carried out under the supervision of a faculty member dissertation adviser and a dissertation committee of at least five members, including one from outside the department.

### **Implementation Intensive Courses**

Implementation intensive courses include: CS 812, 820, 830, 835, and 870.

### **Examination Topic Groups**

The list below identifies the seven topic groups used for the M.S. comprehensive exam.

#### **Group: Exam Topics**

1. Theory: Formal Specification and Verification, Algorithms
2. Operating Systems: Advanced Operating Systems
3. Compiler and Language: Compilers
4. Database: Database
5. Artificial Intelligence: Artificial Intelligence
6. Interactive Systems: Graphics
7. Computer Networks: Computer Networks

### **Breadth Course Groups**

The list below identifies the eight breadth course groups and introductory (800-level) graduate courses in each group. It is also acceptable to satisfy a group requirement by taking an advanced course (900-level) in the specified area. (Note that there are courses in the curriculum that are not in any of the identified groups.)

#### **Group: Introductory Course**

1. Theory: CS 845, 858
  2. Systems: CS 820, x 823
  3. Compiler and Language: CS 812, 835, 871
  4. Database: CS 875
  5. Artificial Intelligence: CS 830
  6. Interactive Systems: CS 860, 867, 870
  7. Networks: CS 825
-

## Earth Sciences (ESCI) ▼

» <http://ceps.unh.edu/earth-sciences>

» [Click to view course offerings](#)

*This program is offered in Durham.*

### **Degree Offered: M.S., Ph.D.**

The Department of Earth Sciences offers the master of science degree in Earth sciences with options in geology, ocean mapping, and a specialization in geochemical systems. The department also offers the master of science degree in hydrology, and a master of science and a Ph.D. in [oceanography](#). A Ph.D. in earth and environmental sciences is offered through the [Natural Resources and Earth System Science Program](#). Graduate students in the department may conduct research through the Institute for the Study of Earth, Oceans, and Space and the Center for Coastal and Ocean Mapping.

**The geology option** is intended for students with interests in petrology, mineralogy, structural geology, tectonics, geophysics, sedimentation, glacial geology, paleoclimate, glaciology, hydrogeology, stratigraphy, paleontology, low- or high-temperature geochemistry, and isotope geochemistry.

**The ocean mapping option** is intended for students with interests in hydrography and hydrographic survey technology.

**The geochemical systems specialization** is intended for students with interests in all aspects of geochemistry: bedrock, sediment, water, ice, and air with particular emphasis on interpreting and modeling the interaction of these media (e.g., biogeochemistry, air quality, and climate change).

**The hydrology degree** is intended for students with interests in fluvial processes, global-scale hydrology, groundwater hydrology, hydroclimatology, surface-water hydrology, water quality, and quantitative hydrology.

### **Admission Requirements**

An applicant to the M.S. program is expected to have completed one year of calculus and at least four semesters of college chemistry, physics, and/or biology; and to have an undergraduate degree or equivalent in geology, chemistry, physics, mathematics, engineering, or the biological sciences. Applicants must submit current scores (within five years) from the general test of the GRE. Students lacking some background in a particular area may be admitted provided they are prepared to complete courses, without graduate credit, in which they may be deficient. The program of study a student wishes to follow and the student's undergraduate major determine the level of preparation necessary. The preparation of each student is determined before the beginning of the first semester in residence in order to plan the course of study. Each entering student is assigned an academic adviser to assist in planning a program of study.

### **Degree Requirements**

Students in the M.S. programs are required to complete the core curriculum for their respective areas.

Students in the thesis option must satisfactorily complete at least 30 credits, which include the credits accumulated in the core curriculum. Students in this option must complete a master's thesis (6 credits) and give an oral presentation of the results.

Students in the non-thesis option must satisfactorily complete at least 34 credits, which includes the core curriculum, a 2-credit directed research project (ESCI 898), and a written and oral presentation of that research.

### **Geology**

The core curriculum for the option in geology normally includes at least three courses from 826, Igneous and Metamorphic Petrology; 831, Geodynamics; 834, Geophysics; 835, Earthquakes and Faulting; 841, Geochemistry; 845, Isotope Geochemistry; 854, Sedimentology; 856, Geotectonics; 859, Geological Oceanography; 862, Glacial Geology; and 866, Volcanology. Students are also required to take 997, Seminar in Earth Sciences (1 cr. first year), and 998, Proposal Development (1 cr. first year).

### **Ocean Mapping**

The core curriculum for the option in ocean mapping normally includes 858, Introductory Physical Oceanography; 859, Geological Oceanography; 871, Geodesy and Positioning for Ocean Mapping; 872, Research Tools for Ocean Mapping; 874, Fundamentals of Ocean Mapping I; 875, Fundamentals of Ocean Mapping II; Math 831, Math for Geodesy; 972, Hydrographic Field Course; 997, Seminar in Earth Sciences (1 cr. first year); and 998, Proposal Development (1 cr. first year). For this option, a total of 36 credits, including thesis or directed research project, is normally required.

Students may fulfill the Category A (professional) International Federation of Surveyors/International Hydrographic Organization/International Cartographic Association (FIG/IHO) Standards of Competence for Hydrographic Surveyors by completing some additional specialized requirements. For more information, please visit the Center for Coastal and Ocean Mapping website, [www.ccom.unh.edu](http://www.ccom.unh.edu).

### **Geochemical Systems**

The core curriculum for the specialization in geochemical systems normally includes three courses from 841, Geochemistry; 847, Aqueous Geochemistry; 852, Chemical Oceanography; 864, Data Analysis in Earth System Science; EOS/NR 844, Biogeochemistry; ESCI/EOS 815, Global Atmospheric Chemistry; ESCI 845, Isotope Geochemistry. Students are also required to take 997, Seminar in Earth Sciences (1 cr. first year); and 998, Proposal Development (1 cr. first year).

### **Hydrology**

The core curriculum for the major in hydrology normally includes 805, Principles of Hydrology; 810, Groundwater Hydrology; 997, Seminar in Earth Sciences (1 cr. first year); and 998, Proposal Development (1 cr. first year).

In each of the options listed above, additional electives are to be selected from 800- and 900-level courses in the department and/or from courses numbered 700 and above in related disciplines outside of the department (e.g., natural resources, civil engineering, chemistry, zoology). More detailed information is available from the department.

### **Certificate in Ocean Mapping**

The program goal is to provide advanced graduate training to working professionals in the area of ocean mapping. These professionals will come from a variety of backgrounds ranging from Earth science, geology, and biology to engineering. The graduate certificate in ocean mapping is awarded for completion of the core courses and associated practicum. The graduate certificate program fulfills the Category A International Federation of Surveyors/International Hydrographic Organization/International Cartographic Association (FIG/IHO/ICA) Standards of Competence for Hydrographic Surveyors.

For more information, please visit the ocean mapping website (<http://ccom.unh.edu/graduate-certificate>) or e-mail [info@ccom.unh.edu](mailto:info@ccom.unh.edu) at the Center of Coastal and Ocean Mapping Joint Hydrographic Center.

### **Applying**

Please visit the Graduate School PBACC site (<http://gradschool.unh.edu/php/posd.php?major=MW73>) for detailed instructions about applying to the certificate program.

### **Certificate Requirements**

ESCI/OE 871, Geodesy and Positioning for Ocean Mapping (4 cr)  
ESCI/OE 872, Research Tools for Ocean Mapping (3 cr)  
MATH 831, Math for Geodesy (3 cr)  
ESCI/OE 874, Fundamentals of Ocean Mapping I (4 cr)  
ESCI/OE 875, Fundamentals of Ocean Mapping II (4 cr)  
ESCI/OE 972, Hydrographic Field Course (4 cr)  
OE 677, Seamanship & Marine Weather (P/F)  
ESCI 896, Coastal Remote Sensing (3 cr) for the optional Remote Sensing specialty

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## Earth, Oceans, and Space (EOS) ▼

» <http://www.eos.sr.unh.edu/>

» [Click to view course offerings](#)

*This program is offered in Durham.*

The Institute for the Study of Earth, Oceans, and Space offers students the opportunity for interdisciplinary study and research. Certain graduate degree programs in Earth sciences, physics, natural resources, and zoology may be accessed through the institute as follows: all the M.S. programs in Earth sciences, the specialization in space physics and astrophysics (M.S. and Ph.D.), and departmental (M.S.) or interdepartmental (Ph.D.) program in natural resources and Earth systems sciences. Admission and degree requirements are set by the respective departments and program. See the graduate program descriptions in Earth sciences, physics, zoology, natural resources, and the natural resources and Earth systems sciences program (NRESS) for admission and degree requirements.

» [Click to view course offerings](#)

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## Economics (ECON) ▼

» <https://paulcollege.unh.edu/academics/graduate-programs>

» [Click to view course offerings](#)

*This program is offered in Durham.*

*Assistant Professor: Deniz Ozabaci, Loris Rubini*

### **Degrees Offered: M.A., Ph.D.**

Programs are offered through the Peter T. Paul College of Business and Economics.

The Department of Economics (hereafter the Department) at Paul College has two of the most distinctive graduate programs in the country. Our Master of Arts (MA) is an intensive, 10-month program that provides rigorous training in economic theory and applied econometrics. Students can also pursue applied course work in International Economics, Environmental and Resource Economics, Health Economics, Data Analysis and Information Management, International Business. At the doctoral level, our program is one of only a few with a dual emphasis on training first-rate economists and outstanding college teachers. Students learn economic theory and econometrics, and can pursue course work and receive supervised training in the teaching of economics. Beyond its strengths in the fields of International Economics, Health Economics, and Environmental Economics, the department is known for its emphasis on the History of Economic Thought and Economic Methodology. The graduate programs draw on faculty from the Business, Natural Resources, Health Management and Policy, and Mathematics departments. The Department maintains an active and high quality weekly research seminar, which attracts leading economists and researchers from around the country.

### **Admission Requirements**

In addition to requirements established by the Graduate School, applicants must submit current scores (within five years) from the general test of the Graduate Record Exam (GRE). The graduate programs seek students whose undergraduate experiences provide evidence of superior ability and that indicate the promise of independent scholarship. At a minimum, undergraduate preparation should include courses in economics at the intermediate level, as well as courses in calculus and statistics. Coursework in econometrics is strongly encouraged. Students applying for the PhD degree are normally admitted into our MA program for the first year, which is one of the most rigorous in the country. Most or all credits earned as an MA student apply towards the PhD degree. If you have already earned an MA in Economics from a U.S. University, the department will consider admitting you as a PhD student your first year. Typically, these students enroll in the same course work as the other first-year students. In exceptional cases, direct admission to the Ph.D. for those with a Bachelor's degree will be considered.

### **Master of Arts in Economics**

The M.A. program in economics builds on the core economic theory and econometrics classes from the Ph.D. program. This coursework is considerably more rigorous than what is typically found at a standalone M.A. program. Consequently, UNH's Master's students are exceptionally well trained.

The 10-month M.A. program is based on four terms, a 5-week term (Term 1) and three 10-week terms (Terms 2-4), running from the end of August through the end of May. It consists of four components: the foundation (in Term 1), the core (in Term 2), concentrations and capstone experience (in Terms 3 and 4). Students participate in weekly research seminars in Terms 2-4, where they are exposed to cutting-edge research presented by UNH faculty and scholars from around the country. The culminating experience for the program is a Master's paper that is completed in Term 4. Students work closely with faculty members in conducting original research and completing their paper.

### **Requirements**

Students must earn 36 credits to graduate, usually consisting of ten, 3-credit courses, plus 6 hours of graduate economics seminar.

#### **I. The Foundation (3 credits)**

ECON 825, Mathematical Economics

The course is typically offered in the five-week Term 1. Class meets four days a week and students earn 3 credits, the same as in the other terms.

## **II. The Core (9 credits)**

ECON 976, Microeconomics I  
ECON 972, Macroeconomics I  
ECON 926, Econometrics I

These courses enable students to advance to specialized areas in the third and fourth terms with a strong background in theory and econometrics.

## **III. Electives (15 credits)**

ECON 927, Econometrics II or an approved skills course  
Field/elective courses

Students may take a variety of economic electives or choose to specialize in an area such as international finance, environmental and resource economics, health economics, data analysis and information management, and international business. Up to two electives as substitutes for economics electives may be taken in courses offered outside of the department, subject to approval by the department. All elective courses must be at the 800 level or higher.

## **IV. Graduate Economics Seminar (6 credits)**

Students are required to register and participate in the Graduate Economics Seminar (ECON 988) in Terms 2, 3, and 4. No more than 6 credits can be counted toward the degree.

## **V. Master's Paper (3 credits)**

Students are required to take the Research Skills course (ECON 979) in preparation to write a master's research paper. The master's research paper is the capstone experience of the master of arts in economics. Students do research under the direct supervision of a faculty member and present their work at the end of Term 4.

## **Ph.D. in Economics**

Admission to the doctoral program is reserved for students who demonstrate exceptional promise in economics and who are interested in teaching and research. The degree requirements include: nine core courses, comprehensive exams, two fields of concentration (a major field and a minor field), field and research workshops, a major field exam, doctoral dissertation proposal defense and final defense, and proficiency in one foreign language if deemed necessary by the student's dissertation chair.

The doctoral program encourages students to develop their research skills early on through an integrative research experience. A cornerstone of this experience is the department's weekly research seminar. Students participate in the seminar by writing critical reviews and referee reports of the papers presented, acting as discussants, and presenting their own research.

A distinctive feature of UNH's doctoral program is its dual emphasis on training economists and college teachers. The Department of Economics, in conjunction with the Teaching Excellence Program in the Graduate School, has developed a nationally known program that provides training in pedagogy for students whose career goals include teaching at the college level. This program, called the Cognate in College Teaching, is an option that Ph.D. students may pursue in addition to the requirements of the Ph.D. degree.

## **Requirements**

The degree requirements include: nine core courses, comprehensive exams, two fields of concentration (a major field and a minor field), field and research workshops, a major field exam, doctoral dissertation proposal defense and final defense, and proficiency in one foreign language if deemed necessary by the student's dissertation chair. Candidacy is reached following successful completion of (1) comprehensive examinations in microeconomics and macroeconomics; (2) exam in major field (health economics, environmental economics or international economics).

## **I. Core courses**

ECON 976, 977, Microeconomics I and II  
ECON 972, 973, Macroeconomics I and II  
ECON 970, Advanced Economic Theory  
ECON 926, 927, Econometrics I and II

ECON 957, History of Economic Thought  
ECON 958, Topics in Economic Thought and Methodology

## **II. Comprehensive Examinations in Microeconomics and Macroeconomics:**

Written evidence of proficiency in economic theory is demonstrated by passing comprehensive examinations in microeconomics and macroeconomics. These examinations will be given twice a year, after term III and at the end of June. Students should sit for *both* of their theory examinations after the third term of their second year of study. The Coordinator of the Graduate Studies conveys information regarding performance in writing. Departmental policy restricts the number of attempts at the comprehensive examinations to *two* per examination. If a student fails a theory comprehensive exam for the second time, then the student may, in the case of extenuating circumstances, petition for a third attempt. Such petition must be submitted within 4 weeks of the date that the department notifies the student of his or her grade. A student who does not show up on the test date will have the examination counted as one of his or her attempts.

## **III. Fields of Concentration**

Students must complete the requirements for one major field and one minor field. A student designates his or her major field during Field Workshop (Econ 992) and must have departmental approval to change the major field thereafter.

### **Environmental Economics**

#### Requirements for a Major Field

1. ECON 908, Environmental Economics: Theory and Policy
2. ECON 909, Environmental Valuation
3. RECO 911, Natural & Environmental Resource Management or other approved course
4. ECON 992, Field Workshop

#### Requirements for a Minor Field

1. Two of the following: ECON 908, ECON 909, or RECO 911

### **Health Economics**

#### Requirements for a Major Field

1. ECON 941, Survey of Health Economics
2. ECON 942, Selected Topics in Health Economics
3. One of the following: PHP 901, Epidemiology; PHP 907, Public Health Policy; PHP 922, Public Health Economics; or other approved course
4. ECON 992, Field Workshop

#### Requirements for a Minor Field

1. ECON 941 and ECON 942

### **International Economics**

#### Requirements for Major Field

1. ECON 945, International Trade
2. ECON 946, International Finance
3. One of the following: ADMN 846, International Financial Management; ECON 846, Multinational Enterprises; ECON 807, Economics of Sustainable Development; ECON 868, Seminar in Economic Development; ADMN 841, International Management; or other approved course
4. ECON 992, Field Workshop

#### Requirements for a Minor Field

1. ECON 945 and ECON 946

## **IV. Examination in Major Field:**

Comprehensive field examinations will be given twice a year, in January and June. Students are to take their major field examination immediately following the completion of the Field Workshop (Econ 992). To sit for their field examination, students must have passed *both* of their theory comprehensive examinations. Students are permitted *two* attempts to pass their field examination. Petitions for a third attempt must be submitted within 4 weeks of the date that the department notifies the student of his or her grade. Such petitions are granted only in the case of extenuating circumstances. A student who does not show up on the test date will have the examination counted as one of his or her attempts.

## **V. Elective Course**

Beyond the core theory courses and field requirements, students must take one additional graduate course from the department or an approved 800-level class from another department.

## **VI. Graduate Economics Seminar**

The doctoral program entails an integrative research experience that encourages students to develop research skills early on. The cornerstone of this experience is the department's weekly research seminar, which brings scholars from around the country to present cutting-edge research. In their first two years of study, students are required to sign up for the Graduate Economics Seminar (ECON 988) in Terms 2, 3, and 4, and write critical reviews of papers presented.

### **VII. Research Workshop**

Beyond their second year of study, students continue to participate in the department's weekly seminar by enrolling in two terms of Research Workshop (ECON 996). Research Workshop students present their own research in the research seminar series. They may also serve as discussants for outside speakers and write referee reports for the papers presented. Students must secure a dissertation adviser prior to signing up for their first term of Research Workshop. The research-workshop requirement should be completed by the end of the fourth year of study.

### **VIII. Foreign Language Requirement**

Students may need to demonstrate reading knowledge of one foreign language if it is determined to be essential to the student's area of research by his or her dissertation chair.

### **IX. Dissertation Proposal Defense**

Prior to defending his/her proposal, a student must find a dissertation chair and form a dissertation committee. The dissertation proposal may be defended as part of the Research Workshop or separately from the Workshop.

### **X. Final Dissertation Defense**

## **Cognate in College Teaching**

The Ph.D. degree in economics from UNH is a research degree that provides students with a deep understanding of economic theory, institutions, and empirical analysis. Most graduates of the program move into faculty positions at other institutions of higher learning where teaching is an important component of their responsibilities.

In conjunction with the Teaching Excellence Program in the Graduate School, the department has developed a track in its doctoral program that provides formal training in pedagogy for students whose career goals include teaching at the college level. This track, called the Cognate in College Teaching, is an option that Ph.D. students may select in addition to the requirements of the doctoral degree (discussed above). The Cognate is a 13-credit program and is awarded, upon satisfaction of all requirements, concurrently with the Ph.D. The Cognate can only be awarded in conjunction with the Ph.D. and none of the course requirements of the Cognate can be substituted for those of the Ph.D.

To enter the program, a student must formally apply to the Graduate Dean after at least one year of full-time graduate studies in economics. Admission to the Cognate will be decided by the graduate dean, based upon recommendations of the Economics Graduate Program Coordinator and the Teaching Excellence Program Director.

## **Requirements of the Cognate**

### **Cognate in College Teaching Requirements**

The Cognate in College Teaching offers a series of core and elective courses to prepare individuals to teach at institutions of higher education. The Cognate is available to doctoral students and students in selected master's degree programs at UNH.

Students must apply and be formally admitted to the program. The Cognate appears as a minor on the student's transcript, and is awarded concurrently with the Ph.D. or Master's degree.

This program requires the satisfactory completion of 13 academic credits. Students elect, with the permission of their graduate coordinator, to add the cognate to their graduate degree. The cognate will be awarded at the time of the award of the qualifying graduate degree. Requirements include 12 credits toward developing core competencies and the submission of an electronic teaching portfolio for 1 credit. For more information please visit the Teaching Excellence web site: [http://www.unh.edu/teaching-excellence/Academic\\_prog\\_in\\_coll\\_teach/index.html](http://www.unh.edu/teaching-excellence/Academic_prog_in_coll_teach/index.html)

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## Education (EDUC) ▼

» <http://www.unh.edu/education/>

» [Click to view course offerings](#)

*This program is offered in Durham and in Manchester through [GSMC](#).*

Assistant Professor: Andrew Coppens, Hadley Solomon

**Degrees Offered: M.Ed., M.A.T., Ed.S., Ph.D.**

**Certificates Offered:**

Assessment, Evaluation and Policy, Autism Spectrum Disorder, Curriculum and Instructional Leadership, Mentoring Teachers, Special Education Administration, Technology Integration

**Note: Effective Spring 2012 the Department of Education suspended admission to the Master of Education degree in Administration and Master of Education degree in Reading.**

The Department of Education offers a variety of programs leading to the master's degree, the doctor of philosophy degree, and the education specialist degree. The department also offers graduate certificate programs in autism spectrum disorder and mentoring teachers.

The master of arts in teaching is offered in secondary education. The master of education is offered in counseling, early childhood education (including an option in special needs), elementary education, secondary education, special education, and teacher leadership. Special education certification is also available to those who complete the M.Ed. programs in elementary or secondary education or who complete the M.A.T program in secondary education.

The education specialist degree is offered in educational administration and supervision. The doctor of philosophy is offered in education.

The master of science for teachers is offered through the departments of chemistry, English, and mathematics. (See those departments for information.) Most programs are available to part-time admitted graduate students.

**Admission Requirements**

In addition to the materials required by the Graduate School, each application must include recent (within five years) Graduate Record Examination (GRE) general test scores and a thoughtful, well-written statement of purpose for undertaking graduate study in a particular program. NOTE: The MEd in Educational Studies does not require the GRE

Individual programs within the department may have additional admissions requirements. Applicants should refer to specific program descriptions. Consultation with a program faculty member is recommended. In all cases, the applicant's relevant experience, references, and professional goals will be considered in the admission process.

Action on applications to Department of Education programs varies by individual program. Applicants to this program must refer to the online Programs of Study listing for additional application instructions. This can be done by referring to the Graduate School's Admissions web page and then Application Requirements. The additional application instructions can be found under Requirements and Supplemental Documents.

**Doctor of Philosophy**

**Program information: Please contact education department.**

The program of Education offers a Ph.D. in education with specialization in fields related to the areas of (1) teacher education; (2) curriculum and instruction; (3) educational leadership and policy studies; (3) experiential/outdoor education; and (4) children and youth in communities. The doctoral program is designed to engender a broad understanding of the field of education by encouraging focused scholarly inquiry grounded in the reality of educational practice across varied formal and informal settings. Professors and students work to place educational issues in philosophical, socio-cultural, and policy-related contexts. The program enrolls full- and part-time students.

An individual program of study is planned by the student and her or his guidance committee. Each student's program includes a set of common core courses, specialized study, a number of selected electives from across areas of inquiry, and required research preparation. Students must meet specific University, department, and program requirements. Within this framework, individual programs can vary widely from student to student depending upon the student's own interests and goals.

The Ph.D. in education provides students with preparation for research, teaching, and leadership in a variety of settings. Graduates hold positions at all levels of schooling, from colleges and universities to K-12 schools. Former students are also involved in work as

policy makers, community agency directors, consultants, and research analysts.

## **Admission**

Students admitted to the program must have completed a master's degree in education or a related field and will normally have worked full time as an educator at the elementary, secondary, or college level. Entering students are expected to have completed some graduate-level coursework in educational psychology, curriculum and instruction, educational structure and change, and the philosophical and social foundations of education. Exceptional candidates who do not meet all of these course prerequisites will be considered. To apply, candidates must submit a Graduate School application, transcripts of all undergraduate and graduate coursework, and Graduate Record Examination (GRE) general test scores.

In addition to the personal statement required on the Graduate School application, candidates must submit an essay on an educational issue. This essay should discuss one issue in the field of education that is of interest to the candidate. It should explore the opportunities and challenges this issue poses and explain why the applicant finds it personally compelling (1,000 to 1,500 words in length).

Prior to completing and submitting the application, it is highly recommended that the candidate arrange for an on-campus interview with the director of doctoral studies or with an appropriate department faculty member. Applicants from distant locations may interview by phone. Contact the Department of Education by phone: (603) 862-2310 or e-mail: [education.department@unh.edu](mailto:education.department@unh.edu).

## **Degree Requirements**

Candidates for the degree must meet admission requirements, develop and complete an approved program of study in consultation with their guidance committee, complete required coursework, undergo an annual assessment review by the Doctoral Advisory Committee (for first- and second-year students), pass a qualifying examination to advance to candidacy, establish a dissertation committee, develop an approved dissertation proposal, write and present the dissertation, and pass the final oral examination.

## **Program of Studies**

Upon acceptance to the program, students are assigned an adviser. During the first year of study, students identify, either in consultation with their adviser or with the director of doctoral studies, faculty members to serve as their guidance committee. Programs for the doctoral degree in education are planned individually by students and their guidance committees. The program of study consists of four major elements: common core courses, specialization specific to the student's scholarly interests, a number of selected electives from across areas of inquiry, and research preparation, including specific advanced research modules. At least five common core courses are required of all students: Proseminar in Doctoral Studies: Critical Inquiry in Education; Normative Inquiry in Education; Qualitative Inquiry in Education; Introduction to Statistics: Inquiry, Analysis, and Decision Making; Applied Regression Analysis for Educational Research; and Quantitative Inquiry: Methods and Techniques of Educational Research. Typically students complete 52 to 64 hours in graduate coursework following their matriculation. These hours do not include doctoral research (EDUC 999).

## **Qualifying Examination**

To be advanced to Ph.D. candidacy, students must satisfactorily complete qualifying examinations as well as other program requirements. After completing at least two-thirds of their coursework, students may take the qualifying examination. The examination is a written exam to be developed, supervised, and evaluated by the student's guidance committee. The qualifying examination is used to evaluate the student's general knowledge in relevant areas of inquiry, and his or her fitness for engaging in research, particularly in the subject proposed for the dissertation.

## **Dissertation**

To complete the degree, the student must present and defend a dissertation of original research and publishable quality.

## **Administration and Supervision**

### ***Program information: Todd DeMitchell, Virginia Garland***

The Department of Education offers the degrees of master of education and education specialist in Educational Administration and Supervision.

## Master of Education

**Note: Effective Spring 2012 the Department of Education suspended admission to the Master of Education degree in Administration.**

The program is designed for the experienced teacher who wishes to become qualified in the broad area of supervision and administration, grades K-12. Emphasis is on the elementary and secondary school principalship. This program leads to certification in New Hampshire as a principal.

**Core requirements (28 credits):** 953, Seminar in Curriculum Study; 961, Public School Administration; 962, Educational Finance and Business Management; 965, Educational Supervision; 967, School Law; 969, Practicum in Educational Administration; and 972, Educational Program Evaluation.

**Electives (8 credits):** Electives are elected in consultation with the program adviser.

**Concluding experience:** A degree candidate must successfully complete one of the following: a comprehensive oral examination based on a set of theses statements prepared by the candidate, or a major research study related to school administration, curricula, or educational supervision.

## Education Specialist (Ed.S.)

This program, formerly the C.A.G.S. degree program, is designed for those who possess a master's degree in school administration or a master's degree in a related educational field. This program offers advanced preparation for those educators who desire careers as school superintendents, assistant superintendents, state department of education personnel, vocational education coordinators, curriculum coordinators, or educational personnel in private organizations. This program leads to certification as a superintendent in New Hampshire. It is possible to also receive certification as a principal under special circumstances.

**Core requirements (20 credits):** Ed.S. students will take the following five core courses: 964, Human Resources in Education; 968, Collective Bargaining in Public Education; 971, School Facilities Management; 973, Policy, Politics, and planning in Education; and 977, Leadership: The District Level Administrator.

**Electives (8 credits):** Electives are selected in consultation with the program adviser. A student who does not hold a master's degree in administration may be required to take specific courses as electives.

**Concluding experience (8 credits):** A student must complete a field internship and a significant field project in an approved administrative setting.

## *Ed.S. in Administration & Supervision Option in Leadership in Counseling*

The Education Specialist degree (Ed.S.) option in Leadership in Counseling requires a minimum of thirty-six (36) credits in counseling and administration coursework. The program is designed to meet the requirements for certification by the New Hampshire State Department of Education for Guidance and Counseling Director. Certification has not yet been approved by the New Hampshire State department of Education. Graduate students interested in New Hampshire certification must discuss this option with the faculty advisor prior to starting the program.

## Admission Requirements

Applicants to the program must possess a master's degree in counseling and hold certification as a school counselor. The applicant must also have completed a minimum of three years of paid service with progressively responsible experience in the field of school guidance and counseling, with recent leadership experience.

## Course Credits

The option in Leadership and Counseling requires a minimum of 36 credits. However, if prerequisites listed below have not been met prior to admission to the program, the total number of credits may exceed the minimum of 36 credits.

## Prerequisites

The following three courses, or their equivalents, must be completed before the required courses can be taken:

EDUC 919 Counseling Practicum: Professional and Ethical Orientation

EDUC 932 Society & Culture: Contemporary Issues in Counseling

EDUC 933 Developmental Models of Comprehensive School Guidance

## Required Courses: 24 Credits

EDUC 934 Current Issues in Counseling (This course will be developed. It will focus on current issues in counseling that administrators encounter. This is the final course with a final paper.)

EDUC 964 Human Resources in Education

EDUC 967 School Law

EDUC 972 Introduction to Educational Evaluation

EDUC 973 Policy, Politics, and Planning in Education

EDUC 977 Leadership: The District Level

EDUC 974 Internship. Ed.S. students in the Leadership in Counseling Option will have specific requirements associated with their certification requirements incorporated into their internship. The internship will be conducted at the district office level or at the school level with a practicing Director of Counseling.

**Elective Course: 8 Credits (approval of advisor)**

If the admitted student has met the prerequisites stated above, she/he must select at least two electives/8 graduate credits that the advisor for the program has approved. If the student needs to complete prerequisites up to two of the prerequisite courses can be used as the elective course consistent with Graduate School policies. Other acceptable electives include courses in counseling, administration (e.g., EDUC 968 Collective Bargaining), and special education (e.g., EDUC 951 Special Education Law).

**Counseling Program**

**Program information: Loan Phan**

**Effective Spring 2016, admissions to the M.Ed. in Counseling have been suspended**

The Graduate Program in Counseling prepares counselors to function in a variety of institutions, agencies, and schools dedicated to the educational, social, vocational, and psychological development of the person. Graduates are typically involved in team delivery of services and work in collaboration with other human services professionals. Students are encouraged to develop a fundamental psychotherapeutic approach that can be applied to diverse client populations. Students may also individualize their program of study to serve the needs of a particular clientele. This can be accomplished through selected readings and projects in required courses, internship experiences, elective courses, and independent study or research projects. The program meets educational requirements for certification in school counseling (M.Ed.).

**Master of Education (48 credit hours)**

**Core requirements (44 credits):** 919, Counseling Practicum: Professional and Ethical Orientation; 920, Counseling Theory and Practice; 921, Psychology of Career and Personal Development; 922, Assessment in Counseling; 923, Group Counseling; 924, Psychological Disorders: Variations in Human Development; 925, Counseling Internship I; 926, Counseling Internship; 932, Society and Culture: Contemporary Issues in Counseling; 933, Developmental Models of Comprehensive School Guidance; 851c, Teaching Exceptional Learners: Related Services.

**Electives (4 credits):** Selected in consultation with the student's adviser, electives may be chosen from graduate-level courses on campus, or may be completed through an approved independent study.

**Concluding experience:** Degree candidates must complete a comprehensive essay examination.

**Early Childhood Education**

**Program information: Eun Kyeong Cho**

The Department of Education offers the master of education degree in early childhood education and an option in special needs. When completed in conjunction with a degree, certification is available as an early childhood teacher (PreK - 3rd). Certification requirements are additional to the master's degree but may be completed as electives for the degree. This program is an advanced course of study designed for teachers, administrators, and other early childhood practitioners who wish to improve their professional competence and broaden their career opportunities. The program emphasizes the acquisition of knowledge and competencies in child development (birth through eight years), learning environments, developmentally appropriate curriculum, developmental and cultural diversity, and professional leadership. The coursework culminates in extensive field-based experience.

**Admission requirements:** All admitted students are expected to have had at least one course in child development at the upper-division level and at least 200 hours of supervised classroom experience with children from birth through eight years of age, or the equivalent.

**Core requirements (26 credits):** 861, Inclusive Curriculum for Young Children; 941, Diversity and Child Development; 942, Sociocultural Perspectives on Teaching and Learning; 948, Leadership and Advocacy in Early Childhood Education; one course



selected from the special needs option courses offering (EDUC 856, 860, or 862); and two semesters (6 credits) of internship in EDUC 900B and 901B.

**Electives (10 credits):** Selected in consultation with the program adviser.

**Concluding experience:** Degree requirements 36 credits. All degree candidates must successfully complete two concluding experiences: (1) one of the following: comprehensive written and oral examination, or a research thesis, (2) and a graduation portfolio.

## **Special Needs Option**

### ***Program information: Eun Kyeong Cho***

The Department of Education offers the master of education degree in early childhood education with an option in special needs. When completed in conjunction with a degree, certification is available as an early childhood special education teacher (birth through eight years). Certification requirements are additional to the master's degree but may be completed as electives for the degree.

This program is an advanced course of study designed for teachers, administrators, and other early childhood practitioners who wish to improve their professional competence and broaden their career opportunities. The program emphasizes the acquisition of knowledge and competencies in child development (birth through eight years), learning environments, developmentally appropriate curriculum, developmental and cultural diversity, and professional leadership. The coursework culminates in extensive field-based experience.

**Admission requirements:** All admitted students are expected to have had at least one course in child development at the upper-division level and at least 200 hours of supervised classroom experience with children from birth through eight years of age, or the equivalent.

In addition to the early childhood core requirements described above, students choosing this option will concentrate on young children who are at risk for, or have, developmental difficulties and special needs. Coursework emphasizes an understanding of the role of the family, community, and social policy in early development and intervention. The program is non categorical in its approach to assessment and educational planning.

**Core requirements (34 credits):** The core requirements of the early childhood program with the addition of three courses.

EC core requirements: 861, Inclusive Curriculum for Young Children; 941, Diversity and Child Development; 942, Sociocultural Perspectives on Teaching and Learning; 948, Leadership and Advocacy in Early Childhood Education; and two semesters (6 credits) of internship in EDUC 900B and 901B.

Additional Special Needs core requirements: 860, Introduction to Young Children with Special Needs; 862, Curriculum for Young Children with Special Needs: Evaluation and Program Design; and 856, Supporting Parents of Students with Special Needs.

**Electives (8 credits):** Selected in consultation with the program adviser.

**Concluding experience:** Degree requirements 42 credits. A degree candidate must successfully complete two concluding experiences: (1) one of the following: a comprehensive written and oral examination, or a research thesis, (2) and a graduation portfolio.

## **Reading**

**Note: The Department of Education has suspended admission, effective Spring 2012, to the Master of Education degree in Reading.**

### ***Program information: Paula Salvio, Ruth Wharton-McDonald***

The graduate program in reading prepares literacy specialists and teachers to provide leadership and instruction in literacy in a variety of educational contexts. The instructional sequence integrates theory, research, and instructional practice, and incorporates field-based and clinical components. Particular emphasis is placed on the interrelationship of reading and writing. Graduates of the program provide direct instruction in literacy and offer leadership in organizing, managing, and evaluating literacy programs.

**Core requirements (24 credits):** 907, Foundations of Literacy Instruction; 908-909, Clinical Diagnosis and Remediation of Reading Difficulties and Disabilities; 910, Reading and Writing Methods in the Middle/Secondary School; 913, Field Practicum in Reading; 914, Seminar in Reading Research.

**Electives (12 credits):** Selected in consultation with the program adviser; a student using the research thesis option as a concluding experience will use 8 credits for EDUC 899, Master's Thesis.

**Concluding experience:** A degree candidate will successfully complete either a written examination or a research thesis.

## **Special Education**

### **Program information: Vincent Connelly, Georgia Kerns**

The special education program prepares highly qualified educators who possess the knowledge, disposition, and skills necessary to take the lead in establishing effective teaching and learning environments for a diverse population of learners, who are capable of collaborating with classroom teachers as team leaders or consultants, and who utilize these skills within their school communities, and within the profession itself. The program meets current certification requirements in the state of New Hampshire in General Special Education, Learning Disabilities, **intellectual and developmental disabilities**, and Special Education Administration.

## **Degree Requirements**

### **Prerequisites for General Special Education Certification:**

1. All candidates are required to complete a course in mathematics teaching methods and a course in reading teaching methods. At UNH, courses that meet the reading requirement are EDUC 806, Introduction to Reading Instruction and EDUC 907, Foundations of Reading Instruction. Courses that meet the mathematics requirement are MATH 701, Exploring Math for Teachers I and MATH 702, Exploring Math for Teachers II. Equivalent courses taken at another college or university may be substituted.
2. All students are required to complete EDUC 850, Introduction to Exceptionality and EDUC 851, Educating Exceptional Learners. Equivalent courses taken at another college or university may be substituted.
3. Credits for prerequisite courses will not count toward those needed for the M.Ed. degree.

### **Core Courses (32 credit hours)**

#### **Required courses for all students:**

EDUC 756/856, Supporting Families of Individuals with Exceptionalities 4 cr.  
EDUC 900C, Internship and Seminar in Special Education 6 cr.  
EDUC 901C, Internship and Seminar in Special Education 6 cr.  
EDUC 938, Advanced Seminar in Special Education 4 cr.  
EDUC 939, Assessment of Children with Learning Difficulties 4 cr.  
EDUC 940, Teaching Children with Learning Difficulties 4 cr.

#### **Elective Courses (12 credit hours minimum)**

EDUC 852, Contemporary Issues in Learning Difficulties 4 cr.  
EDUC 853, Contemporary Issues in Behavior Disorders 4 cr.  
EDUC 854, Contemporary Issues in Developmental Disabilities 4 cr.  
EDUC 855, Fostering Social Relationships for Students Who Experience Severe Disabilities 2 cr.  
EDUC 860, Introduction to Young Children with Special Needs 4 cr.  
EDUC 876, Reading for Children with Special Needs 4 cr.  
EDUC 908/909, Diagnosis and Remediation of Reading Difficulties 4 cr.  
EDUC 947, Curriculum for Young Children with Special Needs: Evaluation and Program Design 4 cr.

EDUC 951, Laws and Regulations Affecting the Education of Individuals with Disabilities 4 cr.

EDUC 952, Inclusive Assessment, Curriculum, Instruction and Communication Supports 4 cr.

EDUC 956, Positive Behavioral Supports 4 cr. Students will select elective courses in consultation with their adviser. At most, 4 credit hours of EDUC 899, Thesis may count as elective work.

Other courses may be included on recommendation from the adviser.

#### **Core Courses for certification in learning disabilities in addition to those necessary for certification in General Special Education:**

EDUC 852, Contemporary Issues in Learning Disabilities 4 cr.  
EDUC 908/909, Diagnosis and Remediation of Reading Disabilities 4 cr./4 cr.  
EDUC 910, Reading and Writing Methods in the Middle/Secondary School 4 cr.

#### **Core Courses for certification in intellectual and developmental disabilities (IDD) in addition to those necessary for certification in General Special Education:**

EDUC 854, Contemporary Issues in Developmental Disabilities 4 cr.  
EDUC 855, Fostering Social Relationships for Students who Experience Severe Disabilities 2 cr.

EDUC 876, Reading for Children with Special Needs 4 cr.

EDUC 952, Inclusive Assessment, Curriculum, Instruction and Communication Supports 4 cr.

EDUC 938, Advanced Seminar in Special Education 4 cr.

EDUC 956, Positive Behavioral Supports 4 cr.

COMM 914, Seminar in Alternative and Augmentative Communication 3 cr.

**Core Courses for Special Education Administration in addition to those necessary for certification in General Special Education:**

EDUC 951, Laws and Regulations in Special Education 4 cr.

EDUC 956, Learning to Listen: Positive Behavioral Supports 4 cr.

EDUC 961, Public School Administration 4 cr.

EDUC 962, Educational Finance and Business Management 4 cr.

EDUC 964, Human Resources in Education 4 cr.

EDUC 974, Administrative Internship 6 cr.

**Concluding Experiences**

**All students will have the option of one of two concluding experiences:**

1. Research project with a defense, or

2. A research thesis that meets the requirements of the Graduate School and the Education department (6-10 credits).

Requirements for the thesis are explained in the Graduate School publication entitled *Thesis and Dissertation Manual*. Which can be found at [www.gradschool.unh.edu](http://www.gradschool.unh.edu). Requirements for the project may be obtained from the adviser or on the program website.

**Grades and Credit Hours**

The M.Ed. degree requires a minimum of 44 hours of graduate-level credits. The exact number of credit hours will depend on the student's background, competencies, and professional goals, and will be determined by the adviser.

**Teacher Education Program**

**Program information: Tom Schram, Cindy Glidden**

The Teacher Education Program prepares teachers who possess the knowledge, disposition, and skills necessary to take the lead in establishing effective teaching and learning environments within their own classrooms and school communities.

The Department of Education offers the master of arts in teaching degree in secondary education and the master of education degree in elementary and secondary education for those seeking initial teacher licensing. The master of education degree in teacher leadership is available for experienced teachers.

Applicants to teacher education programs are evaluated on the following criteria: undergraduate academic record, Graduate Record Examination (GRE) general test scores, personal statement, and letters of recommendation regarding academic ability, motivation, interpersonal skills, and potential for success as a teacher. Those seeking admission to programs leading to teacher licensing should also have a positive recommendation from EDUC 500, Exploring Teaching, or equivalent experience.

In the admissions process, we seek evidence that students have the following knowledge, abilities, and dispositions: motives to teach that include a strong social commitment to contribute to society through education; a disposition to care for their students; an ability to interact positively with children and adults; a capacity to win the respect of peers and be effective in group interaction, showing openness to the needs and views of others; well-developed communication skills, including speaking, writing, and listening skills, as well as an ability to engage others in both the giving and receiving of information and feelings; perceptiveness or the ability to identify and process the relevant details in their environment, especially in the context of a classroom; the ability to make reasonable judgments in a context of complex situations that change from moment to moment; the capacity for clear thinking and an ability to translate thoughts into simple and clear explanations; superior academic skills, extensive knowledge of at least one major discipline, intellectual curiosity, the ability to be open to the unknown, and the willingness to tolerate uncertainty in the face of enormous pressure to deny it; a disposition to take charge of their own learning, which includes the active pursuit of feedback and the willingness to take thoughtful risks.

Any course taken in the Department of Education that will be used to fulfill a teacher licensure requirement must be completed with a grade of B- or better.

**Master of Arts in Teaching and Master of Education Programs for Those Seeking Teacher Licensure**

These programs are designed for two types of students: UNH undergraduates who anticipate completing the Five-Year Teacher Preparation Program at UNH, and students who completed an undergraduate degree either at UNH or elsewhere with little or no

coursework in education. The programs lead to teaching licensure at the elementary and secondary levels. Admission to these programs is competitive.

Licensure requirements that must be met prior to or as part of the master's degree program include completion of 4 credits or an equivalent in each of the following: 500/935, Exploring Teaching; 800, Educational Structure and Change; 801, Human Development and Learning: Educational Psychology; 803, Alternative Teaching Models; 805, Alternative Perspectives on the Nature of Education; 851A or B, Educating Exceptional Learners; 900A, 901A, Internship and Seminar/Teaching (6 credits each, must be taken as part of the program).

Elementary teacher licensure requirements include two additional courses: 806, Introduction to Reading Instruction in the Elementary Schools; and a mathematics course: EDUC 741/841, MATH 601/801, Exploring Mathematics I, o (4 credits each), or the equivalent. Effective Fall 2016, MATH 601/801 is a pre-req for EDUC 741/841.

Students pursuing teacher licensure in art, biology, chemistry, Earth sciences, general science, physics, or social studies must also complete EDUC 807, Teaching Reading through the Content Areas (2 credits).

Preparation for licensure in general special education is available to those who complete the M.A.T. or M.Ed. programs in either elementary or secondary education. This licensure allows recipients to serve as general special education teachers. In order to qualify for licensure in general special education, students must complete 22 credits (18 of which may be used toward the M.Ed. degree, or 6 toward the M.A.T. degree); a reading methods course; a mathematics methods course; 850, Introduction to Exceptionality; 851, Educating Exceptional Learners; 939-940, Assessment and Teaching of Children with Learning Difficulties; 900C, 901C, Internship and Seminar (3 credits each).

Dual licensure in early childhood education and elementary education is available to those who are enrolled in the M.Ed. in Elementary Education. This dual licensure allows recipients to serve as early childhood and/or elementary teachers. The early childhood/elementary education dual-certification program option is intended for students who have majored in family studies with an option in child studies or young child/P-3 program, or the equivalent. Dual licensure requires three graduate courses in early childhood education to be selected in consultation with an adviser from the early childhood program. The three early childhood courses will count as a graduate concentration in the M.Ed. elementary program. Students will complete a full-year internship at the K-3 level under the auspices of the teacher education program.

### **Master of Arts in Teaching (Secondary)**

Students complete an Internship (12 credits) and an additional 20 credits. Of the 20 additional credits at the graduate level, three courses totaling 9 to 12 credits must be taken from a subject field outside education. The remaining 8-11 credits can be in education or in another department.

In consultation with his/her adviser, a graduate student in this program is strongly encouraged to develop a subject-area concentration consisting of at least 3 courses.

**Concluding experience:** A degree candidate must successfully complete a teacher education program portfolio and colloquium in conjunction with the internship.

### **Master of Education (Elementary and Secondary)**

Students complete an Internship (12 credits) and an additional 20 credits. Of the 20 additional credits at the graduate level, 10 must be in education and 10 can be in either education or in another department.

**Concluding experience:** A degree candidate must successfully complete a teacher education program portfolio and colloquium in conjunction with the internship.

### **Master of Education in Educational Studies**

The Master of Education in Educational Studies is a master's degree program that can be completed fully or partially online. It is designed for educators who wish to expand their knowledge of education, improve their educational practice, and positively impact public and private schools. The M.Ed. is also intended to provide a foundation in educational studies for individuals broadly interested in education in a variety of settings, including business, educational and research centers, and national and state agencies. The program provides a context in which participants can develop tools of inquiry to investigate questions about teaching, mentoring, learning and school reform, and to inspire others to work toward educational change. This program does not lead to a teaching or administrative credential.

The 30 – 32 credit program is structured around a knowledge and application core (12 credits) that includes a course on contemporary issues in education, a course on the analysis of teaching, mentoring and learning, and a course on educational research methods. Program participants will also complete four electives (14 - 16 credits), designed to provide depth or breadth to their course of study. Finally, program participants will complete an inquiry project course in which they develop a literature review

on an educational issue of their choice, conduct research, and present their findings in the context of the course (4 credits). The program includes flexible options for study, including a fully online option.

**Applying:** Please visit the Graduate School website for detailed instructions about applying to the program.

**Core required courses (12 credits):** Issues in Education; Analysis of Teaching and Learning; Introduction to Research Methods.

**Elective courses (14-16 credits):** Program participants choose a set of four elective courses in consultation with their advisor, reflecting their personal, professional, and academic interests, needs, and goals. The electives are intended to provide breadth and depth to each participant's course of study. At least two electives must be courses in the Education Department at UNH (8 credits). The other two elective courses may be taken in education, another department at UNH, or another approved institution with the appropriate permission and consistent with Graduate School transfer credit policies (6 – 8 credits, depending on school / department). Electives can be online, hybrid, or face-to-face courses.

**Concluding experience course (4 credits):** Educators as Researchers

### Graduate Certificate in Assessment, Evaluation and Policy

The Certificate in Assessment, Evaluation, and Policy provides the skills and knowledge to design, develop, implement, and analyze a broad range of assessment systems; evaluate teaching, learning and educational programming; and develop multiple strategies to synthesize, share, and use data for decision-making purposes.

Embedded in each of the courses is an emphasis on the role of broader policy contexts in assessment, evaluation, and decision-making. The intended audience of this certificate includes professionals in education and related fields (e.g., psychology, social work, family studies, and nonprofit management) such as teachers, administrators, district office staff, museum educators, policymakers, consultants, among others. This post-baccalaureate certificate can be completed in roughly one and a half years through completion of five four-credit courses.

### Requirements

#### Required Courses (16 credits)

Abbreviation	Course Number	Title	Credits
EDUC	885	Introduction to Educational Assessment	4
EDUC	886	Issues in Assessment: Historical Contexts, Perennial Dilemmas, Current Trends (EDUC 885 is pre-requisite)	4
EDUC	972	Introduction to Educational Evaluation	4
EDUC	9XX	Evidence, Data and Decision-Making (to be developed)	4

#### Elective Courses (4 credits)

Choose one Elective from the following:

Abbreviation	Course Number	Title	Credits
EDUC	881	Introduction to Statistics: Inquiry, Analysis, and Decision Making	4
EDUC	882	Introduction to Research Methods	4
EDUC	884	Educator as Researcher	4
EDUC	904	Qualitative Inquiry in Education	4
EDUC	958	Analysis of Teaching and Learning	4
EDUC	959	Issues in Education	4
EDUC	978	Applied Regression Analysis in Educational Research	4
EDUC	9XX	Instrument Design (to be developed)	4
EDUC	9XX	Summer Institutes (to be developed)	

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## **Graduate Certificate in Autism Spectrum Disorder**

This program will serve the professional development needs of a wide variety of individuals, including: (1) parents of children with ASD; (2) special and general education teachers and administrators; speech-language pathologists, occupational therapists, behavioral consultants, recreation therapists; and (3) graduate students in other University majors such as sociology or psychology. For more information please visit the [Autism Spectrum Disorder website](#).

### **Applying**

Please visit the [Graduate School website](#) for detailed instructions about applying to the certificate program.

### **Certificate Requirements**

The coursework for the graduate certificate consists of 13-15 credits from the following required and elective course offerings. Highly qualified individuals may petition for permission to waive a required course. Applicants are urged to schedule an appointment with the program coordinators to develop their individualized course of study. Applications for graduate certificates are available through the [Graduate School website](#).

#### **Required Courses**

EDUC 857A, Contemporary Issues in ASD

COMM 916, Autism Spectrum Disorders

#### **Elective Courses (two from among the following choices based on individual advising [other electives may be added in the future])**

EDUC 853 Contemporary Issues in Behavior Disorders

EDUC 855, Social Relationships and Students with Disabilities

EDUC 857C, Contemporary Issues in ASD

EDUC 952, Assessment, Curriculum, Instruction, and Supports for Students with Disabilities

EDUC 956, Positive Behavior Supports

OT courses in Assistive Technology

COMM 914, Augmentative and Alternative Communication

## **Graduate Certificate in Curriculum and Instructional Leadership**

This program provides the skills and knowledge for educators to understand curriculum and instruction and to lead educational programs at the school and district office level. It is comprised of curriculum, supervision, instruction, and data analysis components.

### **Applying**

Applicants must have a minimum of five years of successful teaching experience or administrative experience. Please visit the Graduate School website for detailed instructions about applying to the certificate program.

#### **Required courses**

A minimum of five courses (20 credits) is required for this Graduate Certificate; 16 credits must be completed after admission to the program. All students are required to complete EDUC 953 Seminar in Curriculum Study or an equivalent course. In addition, students must complete one course from each of four strands: curriculum, supervision, instruction, and data analysis. With the approval of their advisor and the Division, students may make modifications to the Graduate Certificate's course of study.

### **Strand courses:**

1. Curriculum: EDUC 907 Foundations of Literacy, EDUC 960 Curriculum Development, EDUC 991 Curriculum Theory I, EDUC 992 Curriculum Theory II
2. Supervision of Instruction: EDUC 965 Educational Supervision and Evaluation, EDUC 957 Collaborative Models of Supervision
3. Instruction: EDUC 958 Analysis of Teaching
4. Data Analysis: EDUC 881 Introduction to Statistics, EDUC 885 Educational Assessment, EDUC 972 Program Evaluation

### **Graduate Certificate in Mentoring Teachers**

The Teacher Education Program works with approximately 150 "cooperating teachers" and more than 25 supervisors each year in its full-year internship program. Mentoring is a crucial element in the preparation of effective teachers, as well as in the transition from teacher preparation programs to the first years of teaching. The N.H. Department of Education has also recognized the need for mentoring early-career public school teachers in its "Induction Through Mentoring Projects." The UNH Department of Education proposes to offer a graduate certificate program in mentoring teachers to help advance the preparation of professionals in the field. For more information please visit the [Mentoring Teachers website](#) .

This certificate is designed to serve:

- Experience teachers interested in the mentoring and the professional development of new teachers.
- Experience teachers interested in preparing for leadership positions that require mentoring skills.
- Experience teachers interested in exploring a graduate program in education by first earning a graduate certificate.

### **Applying**

Please visit the [Graduate School website](#) for detailed instructions about applying to the certificate program.

### **Certificate Requirements**

The program of study required for the certificate consists of four required courses and a total of 16 credit hours. The program focuses on the development of mentoring skills that draw upon: (1) models of adult development; (2) approaches to effective teaching; (3) an understanding of teacher supervision and assessment; and (4) strategies for problem solving, conflict resolution, and communication.

EDUC 957, Collaborative Supervision (4 cr.) OR EDUC 965, Educational Supervision (4 cr.)

EDUC 958, Analysis of Teaching (4 cr.)

EDUC 990, Developmental Perspectives on Adulthood (4 cr.)

EDUC 897, Teacher as Researcher [note: course number will change in 05-06]

(Under special circumstances and with the approval of their adviser, students may substitute an elective for EDUC 897)

### **Graduate Certificate in Special Education Administration**

The Graduate Certificate in Special Education Administration (SEA) is part of the department's strong academic offerings in special education, which include a master of education in special education and state certification in general special education, learning disabilities, and intellectual and developmental disabilities. This certificate is designed for experienced educators and prepares administrators who manage and lead special education programs.

### **Applying**

Please visit the Graduate School website for detailed instructions about applying to the certificate program.

### **Required courses**

In order to receive the Graduate Certificate for Special Education Administrator, the matriculated student must pass a minimum of 12 credits, including transfer credits, from the courses below, or electives if appropriate, taken after admission to the Graduate Certificate program, and must complete all requirements for state certification as a special education administrator.

Special Education Courses: EDUC 801 Human Development and Learning: Educational Psychology, EDUC 850 Introduction to Exceptionality, EDUC 938 Assessment and Teaching of Children with Learning Difficulties, EDUC 856 Supporting Families of Individuals with Disabilities, EDUC 951 Laws and Regulations Affecting the Education of Students with Disabilities, EDUC 956 Positive Behavior Supports.

Administration Courses: EDUC 961 Public School Administration, EDUC 962 Educational Finance and Business Management , EDUC 964 Human Resources in Education, EDUC 974 Administrative Internship.

### **Graduate Certificate in Technology Integration**

Today, K-12 classrooms are equipped with technologies that promise higher student engagement, greater access to content knowledge, and effective, efficient learning. However, technology alone cannot transform student learning. Teachers today require the knowledge and skills to effectively integrate technology into their teaching practice. The imperatives of equal access, equal opportunity, and pedagogical congruence compel a mindful and efficacious integration of technology into the 21st century classroom. As technology has become enmeshed into our teaching and learning there is also an emerging need to engage students in the civic responsibilities and proper academic duties required within the digital medium.

#### Requirements

#### **Required Courses (12 credits)**

<b>Abbreviation</b>	<b>Course Number</b>	<b>Title</b>	<b>Credits</b>
EDUC	897	Foundations of STEM Education	4
EDUC	820	Integration of Technology in the Classroom	4
EDUC	897	Advanced Technology Integration	4

#### **Elective Courses (minimum of 3 credits)**

<b>Abbreviation</b>	<b>Course Number</b>	<b>Title</b>	<b>Credits</b>
EDUC	833	An Introduction to Teaching and Writing in the 21st Century	4
OT	893	Using iPads to Support Students with Disabilities	3
ENGL	889	Teaching English in the 21st Century	4
EDUC	845	Math with Technology in Early Education	2
EDUC	897	Teaching Online	4

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#### Electrical Engineering (ECE) ▼

» <http://www.ece.unh.edu>

» [Click to view course offerings](#)

*This program is offered in Durham.*

*Professor:* Kent A. Chamberlin, John R. LaCourse, W. Thomas Miller III

*Associate Professor:* Michael J. Carter, Nicholas J. Kirsch, Andrew L. Kun, Richard A. Messner

*Assistant Professor:* Edward Song, Se Young (Pablo) Yoon, Qiaoyan Yu

**Degrees Offered: Certificate, M.Eng., M.S., Ph.D.**



The Department of Electrical and Computer Engineering offers a doctor of philosophy (Ph.D.) degree, a master of science degree (MSEE) and a master of engineering degree (M.Eng.). The department also offers graduate certificates in Ubiquitous Computing and Wireless Communication Systems.

## **Opportunities**

Advanced degrees in electrical engineering open the door to a wider variety of job opportunities, particularly with regard to consulting, research and development, and positions in academia. Within the department, opportunities for formal study, research, and individual or team projects are available in the following areas: biomedical engineering; communication systems; digital signal processing; computer engineering, computer networks, digital systems, and logical synthesis; robotics and neural networks; image processing and pattern analysis; control systems; electromagnetics; pervasive computing; human-computer interaction; ocean engineering; and instrumentation.

## **Admission Requirements**

An applicant should have completed a baccalaureate degree in electrical or computer engineering or have comparable training, which includes courses and laboratory experiences in mathematics and physical science as well as in topics such as network theory, digital systems, fields and waves, electronics, and electrical circuits. Students with a baccalaureate degree from a non-U.S. university must submit current (within five years) general scores from the Graduate Record Examination (GRE).

## **Degree Requirements**

### **Master of Engineering (M.Eng.)**

The graduation requirement for the ECE M.Eng. degree is based on course credits and concluding experiences. Specifically, students must complete at least 30 credit hours of coursework, with at least 24 credits being earned in the ECE department or related technical disciplines (those disciplines will be determined by the student in conjunction with his/her adviser); of those 24 credit hours in the ECE department, at least 12 must be at the 900 level. Courses outside of the ECE department can be related to management and/or law (courses in financial management, organizational behavior, economics, accounting, intellectual property, etc.). The concluding experiences will be in the form of a technical paper suitable for conference publication and two technical presentations.

Students enrolled in the ECE M.Eng. program are not eligible to serve as teaching assistants (TAs) or research assistants (RAs) except by special permission from the ECE Graduate Committee. All transfers into the ECE M.Eng. program from any of the other two ECE graduate programs will require approval by the ECE Graduate Committee through the existing petition process. If a student holding a TA or RA position in the ECE Department transfers into the ECE M.Eng. program, they are required to relinquish that position.

### **Master of Science in Electrical and Computer Engineering (MSEE)**

Master of science in electrical engineering (M.S.E.E.) degree students must take a minimum of 34 graduate credits including:

- 24 credit hours of graduate coursework, with at least 12 of those credit hours earned in 900-level courses
- 4 credits of ECE 900, Seminars
- 6 credits of thesis work (ECE 899)

Up to 12 credits earned in non-ECE courses numbered 700-799 may be taken for graduate credit by ECE M.S. degree students provided the courses are petitioned and approved by the ECE Graduate Committee.

A student may petition that a maximum of 12 UNH graduate credits or a maximum of 8 non-UNH graduate credits taken prior to admission in the UNH ECE master of science degree program be applied to fulfill the degree requirements.

Once the student has been admitted into the program, under certain circumstances it may be desirable to take courses outside the ECE department to attain the goals outlined in the student's program of study. In these cases, up to two non-ECE 800 or 900-level courses are allowed without petition, provided that they are approved by the student's academic adviser and that the student take at least two 900-level courses (neither of which may be independent studies) within the department. A student wishing to take more than two courses (either 800 or 900 level) outside the department must petition the ECE Graduate Committee.

### **Technical Presentation and Paper Requirement for the Master of Engineering (M.Eng.) Option**

Students in the M.Eng. program are required to submit a technical paper and to deliver two technical presentations as part of their program. Many of the courses in the ECE graduate program require technical reports and presentations, and some of these may be appropriate for satisfying the technical requirement for students in the M.Eng. option. However, there are other approaches for satisfying this requirement as indicated below.

The objective in requiring a technical paper is to ensure that the student has some facility in documenting technical information. The evaluation of that paper is to be performed by the ECE Graduate Committee, and the evaluation will result in either

acceptance or rejection of the work submitted. The criterion for technical papers to be considered acceptable is that they describe a contemporary technical concept or development with a high degree of depth and clarity. The student must be the sole author on the technical paper, and it is to be submitted to the chair of the ECE Graduate Committee electronically before the last day of classes. As noted above, technical papers associated with regular ECE graduate courses or independent studies may be used to satisfy the requirement, as are papers prepared for technical conferences or publications. Papers accepted for presentation at refereed conferences or for publication in refereed journals will automatically satisfy the technical paper requirement. For these papers, students can petition to have the sole authorship requirement waived.

The objective in requiring the two technical presentations is primarily to ensure that students have the opportunity to present in front of a group. For the technical presentations requirement, presentations need to that fulfill one of the criteria below:

1. Presentation of a technical lecture (20 minutes or longer) as part of the requirements for a course in which the student is enrolled.
2. Presentation of a technical lecture in a course as a "stand in" for the faculty member in charge.
3. Presentation of a technical seminar at UNH (for example, presenting a seminar for ECE 900) or to a public group or industry.
4. Presentation of a technical paper as part of a professional job function.
5. Presentation of a paper at a professional technical conference.

It is the responsibility of the student to satisfy this requirement before graduation. Students must get approval from their adviser for any activity that is intended to be used as a technical presentation experience. The two presentations required must be different; giving the same seminar twice does not count as two presentations. If the activity does not fall into one of the five categories listed, prior approval of the ECE Graduate Committee must also be obtained.

The student should submit documentation for the two experiences using the forms found on the ECE website in electronic form to the chair of the ECE Graduate Committee. This should be completed by the last day of classes during the semester of graduation.

## **Ph.D. Degree Requirements**

The degree of doctor of philosophy (Ph.D.) in electrical and computer engineering is conferred on qualified candidates who have passed the qualifying examination and candidacy examination in their field of study, who have completed an original investigation in this field and have embodied the results in an acceptable dissertation, and who have passed an oral examination in defense of the dissertation. The degree of Ph.D. is a research degree. It is not given merely for the completion of course credits. Detailed information can be found on the ECE departmental website.

## **Ubiquitous Computing Certificate**

We live in the era of ubiquitous computing, in which we are surrounded by interconnected computing devices that have become parts of the fabric of our lives. This certificate program will prepare students to develop and deploy ubiquitous computing systems. The certificate program will benefit practitioners who work in the fields related to mobile applications, Internet-of-Things, pervasive computing, ubiquitous computing, and ambient intelligence.

Applicants must hold a baccalaureate degree from an accredited college or university. Applicants should have demonstrated aptitude in undergraduate coursework or similar work experience in Electrical Engineering, Computer Engineering, Computer Science or a related field.

Full list of [application requirements](#).

**Required Courses** to earn your Graduate Certificate in Ubiquitous Computing.

- ECE 824 Ubiquitous Computing Fundamentals (4 credits)
- \*ECE 924 Ubiquitous Computing (3 credits)

### **Elective courses:**

- ECE 814 Introduction to Digital Signal Processing (4 credits)
- ECE 941 Digital Signal Processing (3 credits)
- ECE 960 Computer Architecture
- ECE 920 Wireless Communication Systems
- ECE 901 Electromagnetic Wave Theory (3 credits)
- ECE 900 Research & Development from Concept to Communication (2 semester sequence, 2+2 credits)

## Wireless Communication Systems Certificate

Wireless communication systems play a central role in today's technological ecosystem. They connect people and devices in diverse environments, from homes, to businesses, to roads, to battlefields. This certificate program will provide students with the fundamental concepts necessary to understand and work with various aspects of wireless communication systems, from antennas, to modeling electromagnetic propagation, to signal processing, to multiple-antenna communications.

Applicants must hold a baccalaureate degree from an accredited college or university. Degrees in Physics, Electrical Engineering, Computer Engineering, related engineering field preferred.

Full list of [application requirements](#)

### Required courses to earn your Graduate Certificate in Wireless Communication Systems:

ECE 901 Electromagnetic Wave Theory  
ECE 920 Wireless Communication Systems

### Elective courses:

ECE 814 Introduction to Digital Signal Processing  
ECE 824 Ubiquitous Computing Fundamentals  
ECE 900 Research and Development from Concept to Communication  
ECE 924 Ubiquitous Computing  
ECE 941 Digital Signal Processing  
ECE 960 Computer Architecture

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## English (ENGL) ▼

» <http://www.unh.edu/english>

» [Click to view course offerings](#)

*This program is offered in Durham.*

### Degrees Offered: M.S.T., M.A., M.F.A., Ph.D.

The Department of English offers four advanced degrees: master of arts with options in literature or English language and linguistics; master of science for teachers; master of fine arts in writing; and doctor of philosophy.

### Admission Requirements

All applicants must submit writing samples in accordance with guidelines available from the English department graduate office. All applicants (except those for the M.F.A. and M.S.T.) must submit current scores (within five years) from the general test of the GRE. Applicants for the doctor of philosophy degree program in literature must also submit scores for the subject test of literature in English. Applicants for the degree of master of science for teachers (M.S.T.) must have completed education courses sufficient for certification, or have three years teaching experience, or currently hold a full-time teaching position. A student admitted to the Ph.D. program must hold an M.A. degree or be in the final stage of completing requirements for the degree.

All applicants who wish to be considered for teaching assistantships or tuition scholarships must complete an application form, available from the English department graduate office or from the website listed above, or from the graduate school forms page (see the Graduate Aid section).

### Degree Requirements

#### M.A. Degree Requirements

### **Literature Option**

An M.A. candidate must complete 36 credit hours at the 800 or 900 level, including three seminar courses and a fourth seminar in literature or ENGL 998, Master's Paper. At least six courses must be literature courses offered by the English department (as distinct from courses in critical theory, linguistics, writing, or teaching methods); there are additional distribution requirements. If a student chooses the Master's Paper option, the six-course requirement is reduced to five literature courses. Each M.A. candidate must also pass ENGL 925, The Graduate Study of Literature, and one course in literary theory. The literary theory requirement would normally be met by successful completion of ENGL 813, 814, or 926. As a general rule, all courses counting toward the M.A. degree should be taken in the English department, but two courses may be taken in other departments with approval. No more than two literature courses should be taken in a combined 700/800 (split) level course.

M.A. candidates must pass a reading examination in a foreign language or demonstrate that they have passed a fourth-semester college-level language course with a grade of B or better. Students whose native language is not English may be exempt from this requirement.

### **English Language and Linguistics Option**

Students who wish to specialize in any of the various areas of English language and linguistics may design an M.A. program to meet their interests. Specialties include applied linguistics and the teaching of English as a second language as well as the traditional subfields of linguistics. Psycholinguistics courses are offered through the psychology department.

To earn the M.A. degree, students must complete at least 32 credit hours at the 800 or 900 levels, including one seminar course, and 4 credits of ENGL 998, in which they are to produce a substantial scholarly paper. Unless the student already has a strong background in linguistic theory, the program of study must include one course in phonetics and phonology (ENGL 893) and one in syntax and semantics (ENGL 894). Reading knowledge of one foreign language is required. This may be demonstrated by passing a departmental examination or by receiving a grade of B or better in a fourth-semester college-level language course. Students whose native language is not English may be exempt from this requirement. The student's course of study must be approved by the program adviser.

### **M.S.T. Degree Requirements**

The master of science for teachers is designed for practicing elementary, middle, and high school teachers. It is not appropriate for individuals seeking state certification. No foreign language is required, and the GRE is not required in the application. The student must complete 32 credit hours at the 800 or 900 levels. At least 24 of these credits must be in the Department of English. Courses taken outside the department must be approved by the student's adviser. Students must complete a capstone experience (creative writing option, teacher inquiry option, or curricular option).

The department offers special summer programs, which can be taken to fulfill some or all of the course requirements for the M.S.T. degree. The New Hampshire Literacy Institutes offer summer courses that focus on the teaching of writing and reading in grades K-12. Summer institutes emphasize writing workshops in fiction, nonfiction, and poetry and may include courses in literature and composition theory and research.

### **Master of Fine Arts in Writing Requirements**

In the fall of 2007, UNH launched a master of fine arts in writing, creating a three-year, 48-credit program that aims to provide students with the intensive training in their craft that they'll need to start their lives as professional writers. Students concentrate in fiction, nonfiction, or poetry and are taught by a faculty of eight working writers, each of whom specializes in one of these fields. Students learn in small workshops and in individual conferences with their teachers. Conference teaching is a cornerstone of the UNH graduate writing program.

Students are required to take four workshops in their major genre. In addition, students take one form and theory course in their major genre, five elective courses that may include additional writing courses or courses from the English department's offerings in other fields (such as literature, linguistics, or composition studies), and 8 credit hours of the M.F.A. thesis. Teaching assistants are required to take English 910, Practicum in Teaching College Composition, as one of their electives. There is no foreign language requirement.

The M.F.A. thesis is a book-length, publishable manuscript. For fiction writers, the thesis could be a collection of short stories, a story cycle (linked stories), or a novel. For nonfiction writers, the thesis could be a collection of themed essays and/or magazine articles or a book of creative nonfiction. For poets, the thesis would be a book-length collection of poems. The minimum length of the thesis is 150 pages for fiction and nonfiction writers and 45 pages for poets. Students will work closely with a thesis adviser as they write and pass an oral defense of the thesis, a defense conducted by a three-member thesis committee of writing faculty. Students will also conduct a public reading of their thesis in an event organized by the writing faculty.

In addition, the M.F.A. program offers students opportunities to publish in an online journal called *Barnstorm*, as well as intern at arts/cultural organizations and the university research department, as well as teach in community schools. A select number of students are chosen to teach UNH undergraduate writing courses and to work in the University's Writing Center.

The program admits an average of 15 new students a year, which creates a writing community of 45 student writers.

## Ph.D. Degree Requirements

The Ph.D. program combines the essential guidance and discipline of coursework with the equally essential freedom of independent study and research. To be admitted to the doctoral program, a student must hold an M.A. degree. Students choose between two areas: literature and composition studies. Students choosing either area or program must demonstrate basic proficiency in two languages or advanced proficiency in one. Basic proficiency may be demonstrated by passing a departmental examination or by receiving a grade of B or better in a fourth-semester college-level language course. Advanced proficiency is demonstrated by passing a rigorous departmental examination.

The doctoral program in literature is designed to train students to be teachers and scholars in the fields of literature and language. Students in this program will complete nine graduate courses of which four must be seminars. The other courses must be at the 800 or 900 levels and must include the Practicum in Teaching College Composition (ENGL 910), the Seminar in Literary Theory (ENGL 926), and the ungraded 2-credit course in Dissertation and Profession (ENGL 924). In addition, students must pass a general examination in English and American literature, a more specialized qualifying examination, and the final oral defense of their dissertation. The program in composition studies is designed to train experts who are qualified to teach general courses in literature or linguistics in the teaching of composition. Students in composition studies will complete 10 graduate-level courses of which four must be seminars. The other courses must be at the 800 or 900 levels and include a Practicum in Teaching College Composition (ENGL 910) and Research Methods in Composition (ENGL 918). Students will take a combined general and qualifying examination that focuses both on the theory of composition and rhetoric, and on a secondary area of specialization. Their dissertation work will be on a topic in composition.

Ph.D. students normally hold assistantships and teach under supervision; such teaching is considered a vital part of the student's professional training.

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## Genetics (GEN) ▼

» <http://mcbsgrad.unh.edu/>

» [Click to view course offerings](#)

*This program is offered in Durham.*

*Professor: J. Brent Loy*

## Degrees Offered: M.S., Ph.D.

The interdepartmental genetics program offers graduate work leading to the degrees of master of science and doctor of philosophy. Faculty members are housed in the Departments of Molecular, Cellular, and Biomedical Sciences; Biological Sciences; and Natural Resources and the Environment. The genetics graduate program integrates disciplines ranging from molecular and cellular biology to environmental and evolutionary genetics and genomics, in microbial, plant, and animal systems.

## Admission Requirements

Qualified applicants are admitted with the approval of the genetics graduate faculty. Undergraduate preparation should include mathematics, including calculus; chemistry, including organic; physics; microbial, animal, or plant biology courses with laboratories; and at least one course in genetics. A course in statistics is also desirable. Admitted students with deficiencies in background courses may be required to complete necessary coursework without graduate credit.

Applicants must submit a personal statement, current scores (within five years) from the general GRE test, and three letters of recommendation. If possible, the personal statement should specify the applicant's research interests and potential faculty mentors. International applicants living outside the U.S. should initially complete a free [online pre-application](#). If approved for a full application, applicants must submit current TOEFL scores in addition to the items listed above.

## Degree Requirements

### M.S. Degree Requirements

The coursework for the master of science degree is formulated with input from the student's guidance committee. Students admitted to the M.S. program are required to conduct a research project under the guidance of a faculty adviser, write and submit a thesis based on this research, and pass an oral examination covering graduate courses and thesis.

Students must take a minimum of 30 credits, including at least three genetics courses (minimum of 10 credits), preferably covering breadth in genetics, attend MCBS 997, Seminar each semester, present one seminar per year, and write and defend a 6-10 credit thesis (GEN 899) before their guidance committee.

### **Ph.D. Degree Requirements**

The coordinator of the genetics graduate program, with the concurrence of the student's thesis adviser, nominates the student's guidance and doctoral committees, which administer the qualifying and final examinations, respectively. Doctoral students are expected to have a broad exposure to genetics courses, exceeding that required of master's degree students. Specific course requirements are developed by the student and the guidance committee. Students must attend MCBS 997, Seminar, each semester and present one seminar per year. Upon completion of coursework, the student must pass written and oral qualifying examinations conducted by the guidance committee in order to advance to candidacy. Doctoral students must complete a dissertation on original research in genetics, give a public seminar, and orally defend their dissertation before the doctoral committee.

### **Courses**

In addition to courses in genetics, all graduate students are required to attend MCBS 997, Seminar, every semester as well as any other courses approved by the graduate coordinator

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### **Geospatial Science ▼**

» <http://gss.unh.edu/>

» [Click to view course offerings](#)

*This program is offered in Durham.*

### **Certificate Offered: Geospatial Science**

The Graduate Certificate in Geospatial Science (GSS) at the University of New Hampshire is a multidisciplinary program designed to provide graduate level education in the applied and theoretical technology and applications of geospatial science. Students within the program are afforded the opportunity to build their five course certificate from a variety of required and elective classes from different disciplines to best fit their academic, research, or professional interests. The flexibility of this program makes it ideal for a student looking to complement their degree or a professional looking to build knowledge, skill and credentials within the Geospatial Sciences.

### **Admission Requirements**

Students must hold a baccalaureate degree from an accredited college or university. Five courses as chosen from the categories listed below are required. Courses taken at other institutions are not eligible to be transferred into the program.

### **Applying**

Please visit the [UNH Graduate School site](#) for detailed instructions about applying to the certificate program.

### **Certificate Requirements**

The program of study required for the certificate consists of five courses and a total of 16 credit hours.

Course offerings and requirements are as follows:

### **Elements of Geospatial Science (Core requirement)**

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Abbreviation	Course Number	Title
GSS	800	Elements of Geospacial Science

**Geographic Information Systems (One of the following)**

Abbreviation	Course Number	Title
CIE	896	GIS in Water Resources
GSS	805	Applied GIS for Research
GSS/ESCI	807/895	GIS for Earth and Environmental Science
NR	858	GIS for Community Mapping
NR	860 *	GIS for Natural Resources

**Data Analysis (One of the following)**

Abbreviation	Course Number	Title
BIOL	811	Applied Biostatistics II
EOS	864 **	Data Analysis for Earth Systems Science
MATH	836	Advanced Statistical Methods for Research
MATH	839	Applied Regression Analysis
MATH	944 **	Spatial Statistics
SOC	901	Intermediate Social Statistics

**Electives (Two of the following)**

Abbreviation	Course Number	Title
GSS	896	Crowd Source Mapping
ESCI	895	Time Series Analysis
EOS	864 **	Data Analysis for Earth Systems Science
EOS	896	Remote Sensing for Earth Systems Research
MATH	885	Mathematics for Geodesy
MATH	944 **	Spatial Statistics
NR	857	Remote Sensing of the Environment
NR	859 **	Digital Image Processing
NR	882	Monitoring Forest Health
NR	912	Sampling Techniques
OE/ ESCI	871	Geodesy and Positioning
OE/ ESCI	885	Coastal Remote Sensing
SOC	897	Sociological Methods – Survey Research

Please note the following when selecting a course:

\* = Prerequisite needed

\*\* = Math 944 or EOS 864 may be taken as an elective if not used to fulfill the Data Analysis Core requirement.

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## Health and Human Services (HHS) ▼

» <http://www.shhs.unh.edu/>

» [Click to view course offerings](#)

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## Health Management and Policy (HMP) ▼

» <http://chhs.unh.edu/hmp/index>

» [Click to view course offerings](#)

This program is offered in Durham and in Manchester through [GSMC](#).

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## History (HIST) ▼

» <http://www.unh.edu/history>

» [Click to view course offerings](#)

This program is offered in Durham.

### **Degrees Offered: M.A., Ph.D.**

The Department of History offers the master of arts and doctor of philosophy degrees. The master of arts is offered in many subfields. A formal option in museum studies is also available. Doctoral dissertations may be written on the history of the United States or on topics comparing the United States with other societies or areas.

### **Admission Requirements**

The department usually requires evidence of substantial preparation in history at the undergraduate level, together with some preparation in other areas of humanities and social sciences.

Applicants for admission to any graduate program in history should have a minimum of a B average in history, allied humanities, and social sciences. In addition, applicants must submit current scores (within five years) from the general test of the Graduate Record Examination (GRE). The department assesses the student's entire application, including letters of recommendation and writing sample, in making its decision on admission. Deficiencies in an undergraduate program may be rectified by coursework as a special student, but such coursework cannot be used to satisfy requirements for an advanced degree. The department also recommends that a beginning graduate student have some training in a foreign language. Students in seminar or reading courses in other than American history may be required to have a reading knowledge of at least one foreign language appropriate to the particular course. Applicants should include with their applications a personal statement indicating their reason for undertaking graduate study at the University of New Hampshire. Normally, an entering student intending to be a candidate for the doctorate will complete an M.A. program as a prerequisite. However, students with the M.A. from another institution, or with exceptionally strong preparation at the undergraduate level, can begin the doctoral program immediately. In addition, a student in residence can, with the consent of the department, omit the M.A. and proceed directly toward the Ph.D.

### **Degree Requirements**



## **M.A. Degree Requirements**

A master's student designs a specific program to meet one of three plans. Plan A allows substantial training and research in a single subfield of history but within a foundation of broader coursework. Plan B allows substantial breadth over at least two subfields. The subfields in history include the following: the ancient world, medieval Europe, early modern Europe, modern Europe, European intellectual history, medieval England, early modern England, modern England, early modern France, modern France, early modern Germany, modern Germany, Iberia, Russia, early U.S., modern U.S., colonial Latin America, modern Latin America, the Far East, the Near East, sub-Saharan Africa, and the history of science. Plan C allows students who enter the doctoral program without an M.A. to pursue the M.A. and Ph.D. degrees simultaneously.

**Plan A requires** at least eight courses in history numbered 800 or above, including at least one research seminar, and a 6-credit thesis (HIST 899) in a single subfield (equivalent to two courses).

**Plan B requires** at least 10 courses in history numbered 800 or above, including at least one research seminar, and an oral examination demonstrating competence in two subfields of history.

**Plan C requires** at least 30 credits of coursework during preparation for the Ph.D. qualifying examinations, as described below; submission of a seminar or other research paper as a demonstration of competence in basic research techniques; and passing Ph.D. qualifying examinations.

## **Museum Studies Option**

Students who are seeking or considering careers in the museum world, rather than in teaching and/or research, may pursue the option in museum studies. Students basically follow the History M.A. Plan B. Of the 10 required courses, students must take History 871, Museum Studies; History 872, Studies in Regional Material Culture; one research seminar; and two internships (taken for credit) in nearby museums or other historical institutions. The final requirement is either a one-hour oral exam or the completion of a major project related to the student's work in museum studies.

## **Ph.D. Degree Requirements**

A doctoral student's program, which must be approved by the graduate committee of the department, shall include each of the following requirements: two research seminars, one in early U.S. history and one in modern U.S. history; two reading seminars, one in early U.S. history and one in modern U.S. history; a course in historical methods; correction of any deficiencies in the student's previous program; proficiency in one foreign language; History 970, Graduate Seminar in Teaching History (applies to all doctoral candidates awarded teaching assistantships); preparation through reading and coursework in the entirety of U.S. history, with emphasis upon either early or modern U.S.; preparation through reading and coursework of two subfields outside of U.S. history, one of which may be a cognate field outside of history entirely; qualifying exams; dissertation proposal; and dissertation and successful defense.

Candidacy is reached after successful completion of the following: 1) complete research seminars in early and modern U.S. history, reading seminars in early and modern U.S. history, a course in Historical Methods, History 970 (teaching assistants only), and courses to prepare fields or correct any deficiencies in the student's previous preparation; 2) demonstrate proficiency in a foreign language; 3) pass written and oral qualifying exams.

*Note:* In the definition of fields above, United States and U.S. are understood to mean the United States and its colonial antecedents.

## **Apprenticeship and Degree Regulations**

The department considers that graduate work in history, and particularly doctoral work, is professional training. The department recognizes the dual concerns of the historian's life: teaching and research. When feasible, all doctoral students are expected to undertake teaching in the department during a part of their residence. Participation in proseminar and in teaching constitutes an apprenticeship in conjunction with formal study. Doctoral students may choose to pursue the Cognate in College Teaching offered through the Graduate School. All graduate students are reviewed annually by the faculty of the department. A student accumulating two course failures is automatically barred from continuing in any degree program in history, but the department reserves the right to exclude others whose overall performance does not give reasonable assurance of a successful program completion. Students are allowed no more than three attempts to meet any language requirement.

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## Human Development and Family Studies (HDFS) ▼

» <http://www.chhs.unh.edu/hdfs>

» [Click to view course offerings](#)

*This program is offered in Durham.*

*Professor: Corinna Jenkins Tucker*

*Associate Professor: Barbara R. Frankel, Kerry Kazura, Erin Hiley Sharp*

*Assistant Professor: Tyler Jamison, Kimberly Turner Nesbitt, Jill Trumbell*

*Clinical Associate Professor: Mark Moses*

*Clinical Assistant Professor: Lisa Ranfos*

### **Degree Offered: M.S.**

### **Certificates Offered: Adolescent Development**

The Department of Human Development and Family Studies offers two programs of study leading to a master of science degree in family studies: the Core Areas of Study Program and the Marriage and Family Therapy Program.

The goal of both programs is to provide students with an understanding of theory and methods relevant to human development and family studies and to prepare them to work with individuals and families in therapeutic, educational, and community or corporate settings. The Core Areas of Study program has two foci: Adolescent Development and Child Development. Students may elect a thesis or comprehensive exam. The Marriage and Family Therapy Program is accredited by the Commission on Accreditation for Marriage and Family Therapy Education and requires a minimum of two years of full-time study, including two summers.

The Department of Human Development and Family Studies also offers a one-year, 14- to 15-credit, multidisciplinary program of study leading to a graduate certificate in Adolescent Development. The certificate program is intended for individuals who are working in the field but who lack specific knowledge about adolescence, as well as those who are changing careers or who are already working in related fields and need to meet continuing education requirements or desire additional academic preparation.

### **Admission Requirements**

Students in good standing with undergraduate degrees in any field and a specific interest in working with individuals and families are encouraged to apply.

Candidates for the master's degree program must have completed an introductory statistics course or the equivalent as part of their undergraduate program. If their undergraduate program did not include such a course, students who are accepted into the M.S. program must successfully complete an introductory statistics course before they graduate. (Note: Students in the Core Area of Study program must also complete a graduate statistics course; see "Program Requirements" for the Core Area of Study.)

In lieu of the standard UNH Graduate School personal statement, applicants to the MFT program must answer the questions listed on the department's [MFT admissions website](#). Responses to the MFT questions should be submitted in numbered format, and should address each question separately and explicitly. Answers to the MFT questions should be submitted with the application.

Individuals applying to the Core Areas of Study and Certificate programs should submit a standard personal statement with their applications.

### **Accelerated Master's for the Core Area Program**

UNH Seniors with a 3.2 GPA or higher can apply for early admission to the Core Area program in either Child Development or Adolescence by the deadlines noted on the Graduate School website. Accepted students will begin the accelerated program in the spring of their senior year. Students will be permitted to take up to 12 credits for dual credit.

### **M.S. Degree: Core Areas of Study Program**

**Adolescent Development:** This core area of study is designed to develop general competence in understanding and applying theory and research regarding adolescents from teen years through early adulthood within the context of their families and communities. Students are expected to participate in projects involving adolescents and to complete a practicum in a program that serves adolescents.

**Child Development:** This core area of study is designed to develop an understanding of theory and research regarding children from infancy through the early school years and to prepare students to work in a variety of social science positions focused on children's family and school experiences. Students are expected to complete a practicum in a child-focused setting.

### **M.S. Degree: Marriage and Family Therapy Program**

The Marriage and Family Therapy (MFT) Program is a 72-credit program designed so students may achieve a master of science in a minimum of two years and two summers. The program is accredited by the Commission on Accreditation for Marriage and Family Therapy Education (COAMFTE). MFT students must: 1) satisfactorily complete an established array of courses; 2) accrue 500

hours of client contact through teaming, through the Marriage and Family Therapy Center, and (for the majority of students) through an external internship; and 3) satisfactorily complete an integrative paper and presentation. The clinical training emphasizes treating individuals, couples, and families in relationship to larger systems that influence them. Supervised practica continue throughout the program.

MFT program graduates function as competent and ethical marriage and family therapy professionals and have a solid knowledge base of marriage and family therapy theory and research as well as clinical practice principles. The MFT Program successfully prepares graduates for employment as marriage and family therapists in community agencies.

### Certificate Program

The certificate in adolescent development builds general competence in understanding and applying theory and research regarding adolescent development, with particular emphasis on the influences of families and communities. The program is grounded in an ecological approach that focuses on supporting the health and well-being of all adolescents, with special attention to using a developmental perspective to develop programs, policies, and other interventions that address contemporary risk and protective factors.

### M.S. Degree Requirements: Core Areas of Study Program

#### Program requirements for the Core Areas of Study include:

1. Completion of the 12-credit core curriculum that includes HDFS 991, Professional Issues for Family Specialists; HDFS 993, Theoretical Approaches to Family Studies; and HDFS 994, Research Seminar;
2. Twenty-two (22) hours of coursework including four (4) semester hours of practicum or internship (HDFS 911), and a graduate-level statistics course; and
3. Successful completion of a research thesis (6-10 credits in HDFS 899), OR a comprehensive written examination, plus eight (8) credits of approved electives in place of HDFS 899.

**Thesis Option:** Students electing to complete a research thesis must write and defend a thesis based on original research. Students must earn a minimum of 6 credits of HDFS 899 (Master's Thesis).

**Comprehensive Examination:** Students electing to complete a comprehensive examination must take an additional 8 credits of approved electives in place of thesis credits. The comprehensive examination consists of a timed, three-hour closed-book portion and a one-week take-home exam.

A graduate student who fails a course must immediately attend a mandatory meeting with the instructor of the course, the human development and family studies graduate coordinator, and, if desired, the student's adviser. If a graduate student receives grades below "B-" in two or more courses, the human development and family studies graduate coordinator will make a recommendation to the Graduate School that the student be dismissed from the human development and family studies graduate program.

### M.S. Degree: Core Areas of Study Courses

Abbreviation	Course Number	Title	Credits
HDFS	807	Practicum	1 TO 6
HDFS	809	Child Study and Development Center Internship	1 TO 6
HDFS	833	Supervising Programs for Young Children	4
HDFS	834	Curriculum for Young Children	4
HDFS	843	Families, Schools, and Community	4
HDFS	846	Human Sexuality	4

HDFS	857	Race, Class, Gender, and Families	4
HDFS	860	Family Programs and Policies	4
HDFS	871	Observation and Assessment of Young Children	4
HDFS	873	International Perspectives on Children and Families	4
HDFS	876	Children, Adolescents and the Law	4
HDFS	894	Families and the Law	4
HDFS	897	Special Topics	1 TO 4
HDFS	899	Master's Thesis	1 TO 6
HDFS	911	Graduate Internship	2 TO 8
HDFS	930	Child Development in Context	4
HDFS	950	Contemporary Issues in Adolescent Development	4
HDFS	991	Professional Issues for Family Specialists	4
HDFS	993	Theoretical Approaches to Family Studies	4
HDFS	994	Research Seminar	4

### **M.S. Degree Requirements: Marriage and Family Therapy Program**

#### **Program requirements include:**

1. The 12-credit core curriculum (HDFS 991, Professional Issues for Family Specialists; HDFS 993, Theoretical Approaches to Family Studies; and HDFS 994, Research Seminar);
2. Thirty-five to thirty-six (35-36) semester hours of coursework, including HDFS 941, Marital and Family Therapy; HDFS 930, Child Development in Context (or an approved elective); HDFS 942, Advanced Systems of Marital and Family Therapy; HDFS 945, Family Therapy Practice I; HDFS 946, Critical Problems in Family Life; HDFS 947, Family Therapy Practice II; HDFS 952, Clinical Interventions in Couples Therapy; and HDFS 954, Human Sexuality, the Treatment of Sexual Problems, and the Clinical Applications of Sexual Therapy; and one 3-4 credit elective approved by the student's adviser.
3. Successful completion of 24 credits of HDFS 998, Marriage and Family Therapy Practicum (500 hours of supervised clinical practice); and
4. Successful completion and presentation of an integrative paper and video representing the student's theory of change.

A graduate student who fails a course must immediately attend a mandatory meeting with the instructor of the course, the human development and family studies graduate coordinator, and, if desired, the student's adviser. If a graduate student receives grades below "B-" in two or more courses, the human development and family studies graduate coordinator will make a recommendation to the Graduate School that the student be dismissed from the human development and family studies graduate program.

### **M.S. Degree: MFT Program Courses**

<b>Abbreviation</b>	<b>Course Number</b>	<b>Title</b>	<b>Credits</b>
HDFS	897	Special Topics	1 TO 4
HDFS	930	Child Development in Context	4
HDFS	941	Marital and Family Therapy	4
HDFS	942	Advanced Systems of Marital and Family Therapy	4
HDFS	945	Family Therapy Practice I	4
HDFS	946	Critical Problems in Family Life	4
HDFS	947	Family Therapy Practice II	4
HDFS	952	Clinical Interventions in Couples Therapy	4
HDFS	954	Human Sexuality, The Treatment of Sexual Problems, and the Clinical Applications of Sexual Therapy	4
HDFS	991	Professional Issues for Family Specialists	4
HDFS	993	Theoretical Approaches to Family Studies	4
HDFS	994	Research Seminar	4
HDFS	998	Marriage and Family Therapy Practicum	1 TO 8

### **Certificate Requirements: Adolescent Development**

A certificate in adolescent development is awarded upon completion of: (1) a 2-course core curriculum; and (2) an additional two elective courses, one of which must be a human development and family studies course.

### **Core Curriculum Courses**

<b>Abbreviation</b>	<b>Course Number</b>	<b>Title</b>	<b>Credits</b>
HDFS	950	Contemporary Issues in Adolescent Development	4
HDFS	995	Seminar & Special Problems - Human Development	3

**Human Development and Family Studies Electives (choose at least one)**

<b>Abbreviation</b>	<b>Course Number</b>	<b>Title</b>	<b>Credits</b>
HDFS	846	Human Sexuality	4
HDFS	860	Family Programs and Policies	4
HDFS	857	Race, Class, Gender, and Families	4
HDFS	876	Children, Adolescents, and the Law	4
HDFS	897	Special Topics (prior approval required)	4
HDFS	991	Professional Issues for Family Specialists	4
HDFS	993	Theoretical Approaches to Family Studies	4

**Multidisciplinary Electives**

<b>Abbreviation</b>	<b>Course Number</b>	<b>Title</b>	<b>Credits</b>
EDUC	810C	Youth Organizations	4
EDUC	817	Growing Up Male in America	4
RMP	805	Management and Policy in Therapeutic Recreation	3
RMP	830	Camp Administration and Leadership	3
RMP	860	Community Sports Organizations: Administration and Leadership	3
SOC	815	Criminological Theory	4
SOC	820	Sociology of Drug Use	4
SOC	840	Sociology of Mental Health	4
SOC	876	Family Violence Research Seminar	4
SOC	975	Sociology of the Family	4

SW	805	Child and Adolescent Risks and Resiliency: Program, Policy and Practice	3
SW	815	Practice with Gay, Lesbian, Bisexual and Transgender People	3

Other human development and family studies or multidisciplinary electives may be selected with adviser approval.

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## Information Technology (IT) ▼

» <http://manchester.unh.edu/academics/degree-programs/information-technology>

» [Click to view course offerings](#)

*This program is offered in Manchester through [GSMC](#).*

Associate Professors: Michael Jonas, Mihaela Sabin

Assistant Professor: Karen Jin

### **Degree Offered: M.S.**

The Computing Technology program in the Division of Science and Technology at UNH Manchester offers a master of science in information technology (M.S. IT). The program prepares students for a professional IT or computing-related career and for advanced studies in a computing discipline.

The program is designed for a broad and diverse audience of

[computing professionals determined to advance their careers](#)  
[working adults seeking a career change](#)  
[qualified candidates with strong interest in the IT field.](#)

The learning environment of the M.S. IT program uses a blended learning model, which combines in-class and online educational activities, emphasizes collaboration and communication among peers, and integrates practice with computing technologies and authentic project experiences.

The M.S. IT program has 33 credits (11 courses). All courses are offered in the evening, in fall, spring, and summer terms. There are also options for taking some of the courses during the day. If enrolled part-time and taking, on average, two courses per term, students can complete the program's coursework in two years.

The program's educational objectives for graduating students are:

1. Proficiency in applying knowledge and skills in core and advanced information technologies to help organizations achieve their goals.
2. Proficiency in identifying, analyzing, and making plans to meet the IT needs of a large spectrum of users, from end users of information systems to managers of enterprise applications and developers of IT solutions.
3. Proficiency in developing, applying, integrating, administering, and evaluating IT systems and services.

### **Admission Requirements**

Applicants must meet the admission standards of the UNH Graduate School and have a bachelor's degree in a computing discipline: computer science, information technology, computer information systems, information sciences, computer engineering, or software engineering.

Students with undergraduate degrees in other fields are invited to apply and required to schedule an interview with the program coordinator. The minimal formal coursework required of students without a B.S. degree in computing includes: introduction to programming, operating systems, networking, databases, and college mathematics above college algebra (such as finite mathematics, discrete mathematics, or statistics).

Students are able to satisfy the program's prerequisites by taking the following undergraduate courses at UNH Manchester and getting a minimum grade of B:

COMP 425, Introduction to Programming  
COMP 520, Database Design and Development  
COMP 542, Operating Systems Applications  
COMP 550, Networking Concepts  
MA 418, Precalculus, or MA420, Finite Mathematics

The selection of prerequisite courses depends on the student academic and professional experience.

## **Degree Requirements**

The M.S. IT program has two options: thesis and project.

Both options require completion of 33 credits (11 courses), including:

Five core information technology courses (18 credits) and  
Two IT integration courses (6 credits).

In addition,

M.S. Thesis option requires

Two elective course (6 credits) and  
Thesis (6 credits) to be completed under the supervision of a thesis adviser and a thesis committee of at least three members.

M.S. Project option requires

Three elective courses (9 credits) and  
Project (3 credits) to be completed under the supervision of a faculty adviser.

### Core IT Courses

COMP 805, Web Application Development  
COMP 815, Information Security  
COMP 820, Database Systems and Technologies  
COMP 830, Object-Oriented Software Development  
COMP 835, Networking Technologies

### IT Integration Courses

COMP 851, System Integration and Architecture  
COMP 852, Computing Infrastructures

### Elective Courses

Two or more elective courses can be selected from other graduate computing courses offered in the program. Because of the applied and professional nature of this program, students are encouraged to consider electives in application domains of IT, such as analytics, business, education, engineering, management, public health, software development, and more. For students seeking a career change or with an interest in a particular domain of IT, we recommend the COMP 890 Internship course.

### Project Course

COMP 898, Master's Project

The project course typically deals with an authentic project or problem to solve, which is integrative in nature and requires IT research.

### Master's Thesis

COMP 899, Master's Thesis (6 credits)

» [Click to view course offerings](#)

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## Integrated Applied Mathematics (IAM) ▼

» <http://math.unh.edu/graduate-study>

» [Click to view course offerings](#)



## Degrees Offered: M.S., Ph.D.

The Integrated Applied Mathematics program offers both the master of science in mathematics with an option in applied mathematics, and the doctor of philosophy program in applied mathematics. Both programs are housed in the Department of Mathematics, and [additional information is available here](#).

The essence of modern applied mathematics is the interplay between mathematical analysis, numerical computation and scientific/engineering specialization. Thus, the IAM curriculum is designed to provide applied mathematics graduate students with advanced training in these three broad, inter-related topics: (1) Mathematical Methods, (2) Scientific Computing, and (3) a Scientific or Engineering Area of Specialization.

### M.S. Degree Requirements (Applied Mathematics Option)

This program requires 30 credit hours, consisting of the courses MATH 931, IAM 933, an approved two-course sequence in applied mathematics (such as MATH 967/977). In addition to these courses, the student chooses either a thesis or project option. The thesis option consists of 6 credits of Master's Thesis (MATH 899) and four elective courses. The project option consists of 3 credits of Master's Project (MATH 898) and five elective courses. The elective courses need not be in mathematics, but must be at the 800 level or higher, and at least one must be a technical course in statistics or some other department. The broad elective flexibility allows the student's application interests to have a substantial role in the content of the program. The student's full program plan must be proposed in writing to the applied mathematics faculty and approved prior to the student's second semester of study. There is no comprehensive examination in this option.

### Ph.D. Requirements

The following are the requirements of completing the Ph.D. in Applied Mathematics program:

#### Candidacy

Students are advanced to candidacy after meeting the following requirements:

1. Must take nine courses totaling 27 credits from the following list: PHYS 931, IAM 830, IAM 851, IAM 932, IAM 933, IAM 961, IAM 962. One of the following 2-course sequences can also apply: MATH 847/IAM 950, ME 807/ME 909 or PHYS 953/PHYS 951.

2. In addition, must take a minimum of three technical electives totaling 9 credits from the following list: IAM 940, ME 812, ME 911, and other approved courses.

3. Pass a three-part Ph.D. qualifying exam:

\*Comprehensive exam in mathematical methods

\*Comprehensive exam in numerical analysis and high-performance computing

\*Oral or written exam in specialization area

4. Seminar presentation of thesis proposal to dissertation committee.

#### Dissertation

Each Ph.D. student must submit a dissertation that includes original results in integrated applied mathematics.

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## Justice Studies (JUST) ▼

» <http://www.unh.edu/justice-studies/>

» [Click to view course offerings](#)

*This program is offered in Durham.*

### Degree Offered: M.A.

The goal of the master of arts degree program in justice studies is to produce graduates who have a high level of knowledge about law and justice in American society and worldwide. Upon completion, graduates will be able to enhance their careers in the justice system, enter new careers in the justice system, or continue their graduate training in law, social sciences, or humanities.

The program addresses issues of justice that are not necessarily criminal in nature. It will familiarize students with legal and justice ideas, legal institutions, and the legal process. It will provide tools for a reasoned appraisal of how the law works and of the policies

that underlie it. The courses address a wide variety of subjects, including philosophy of law, American legal history, psychological aspects of the law, social control, criminology, juvenile delinquency, law and literature, and family law. Courses are taught by faculty with backgrounds in both the social sciences and humanities.

### **Special Note on Tuition:**

The justice studies masters of arts degree program has a different pricing structure. You can find the most current pricing for this program on the [business services website](#).

### **Admission Requirements**

In addition to meeting the general Graduate School requirements, applicants must submit current scores (within five years) from the general test of the GRE or the LSAT.

Students are admitted for the summer term. Classes for this program begin during the last week in July. The application deadline to be considered for financial assistance is March 1st. The deadline for consideration without financial assistance is April.15th.

### **Degree Requirements**

The master of arts in justice studies requires that students complete a minimum of nine courses (36 credit hours) in justice studies from the following list:

#### **Required courses:**

JUST 830, Theories of Justice  
JUST 901, Proseminar  
JUST 905, Quantitative Research Methods  
JUST 907, Applied Research Methods

#### **One of the three listed below:**

SOC 815, Criminological Theory  
SOC 880, Social Conflict  
SOC 921, Crime and Conflict/JUST 865, Crime and Conflict

#### **Concluding Experience:**

JUST 897, Culminating Project (4 credits), and  
JUST 950/951, Internship (4 credits)

or

JUST 899, Masters Thesis (8 credits)

#### **Electives:**

From the following list, choose two courses if taking JUST 899 or two courses plus JUST 950/951 if taking JUST 897 :

EDUC 867, Students, Teachers, and the Law  
EDUC 897, Higher Education and the Law  
EDUC 951, Laws and Regulations Affecting the Education of Students with Disabilities  
EDUC 967, School Law  
EDUC 968, Collective Bargaining in Public Education  
FS 872, International Approach to Child Advocacy  
FS 876, Children, Adolescents, and the Law  
FS 894, Families and the Law  
HMP 940, Legal Strategies in Health Care  
HIST 809, United States Legal History Special Topics  
HIST 845, 19th Century European Great Powers-Diplomacy and Int'l Law  
HIST 949, Colloquium on Law and Society in American History  
JUST 950, Internship  
JUST 965, Special Topics  
JUST 995, Reading and Research  
POLT 801, Courts and Public Policy  
POLT 803, Urban and Metropolitan Politics  
POLT 808, Administrative Law

POLT 897C, The Drug Wars: Views from the South and North  
POLT 897F, Homeland Security  
POLT 898B, Sem/Security Intelligence Study  
PSYC 954, Advanced Seminar in Social Psychology  
SW 897, Special Topics: Domestic Violence  
SW 979, Social Work and the Law  
SOC 815, Criminological Theory  
SOC 820, Sociology of Drug Use  
SOC 876, Family Violence Research Seminar  
SOC 880, Social Conflict  
SOC 921, Crime and Conflict  
SOC 976, Violence in the Family

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## Kinesiology (KIN) ▼

» <http://www.chhs.unh.edu/kin/index>

» [Click to view course offerings](#)

*This program is offered in Durham.*

**Degree Offered: M.S.**

**Certificate Offered: Adapted Physical Education**

### Master of Science Degree

The Department of Kinesiology offers a master of science degree with the following areas of concentration: exercise science, outdoor education, and sport studies. In addition, the Departments of Kinesiology and Social Work offer a dual degree program, which consists of a master of science in kinesiology with a concentration in outdoor education, as well as a master in social work (M.S.W.).

Additionally, a graduate certificate in adapted physical education is offered.

### Admission Requirements

Admission is based on undergraduate preparation, academic record, Graduate Record Examination general test scores (current scores, within the last five years), and letters of recommendation. Applicants must be above-average students and show adequate preparation in the basic support courses of the selected concentration area. Applicants who have not met specific course prerequisites should expect to take additional undergraduate work without receiving graduate credit.

Students applying for the dual degree program must meet both the admission requirements for kinesiology and for social work and be admitted to both programs (applications to each program required). See social work for their admission requirements.

### Degree Requirements

Students may follow either the thesis, the non-thesis, or the advanced research plan. All degree candidates will be required to take KIN 901, Analysis of Professional Literature; the designated concentration core; and electives as required.

**Exercise science core:** A graduate statistics course (PSYC 702, SW 962, EDUC 881, or equivalent), KIN 896, Advanced Research in Exercise Science; KIN 901, Analysis of Professional Literature; and two semesters of KIN 902, Colloquium are required. Additional elective courses are selected in consultation with the academic advisor to meet the 30-credit minimum necessary for graduation

**Sport studies core:** A graduate statistics course (PSYC 702, SW 962, EDUC 881, or equivalent), KIN 880, Psychological Factors in Sport; one adviser-approved KIN elective at the 800 or 900 levels; and KIN 840, Athletic Administration or KIN 843, Sport Marketing.

**Outdoor education core:**

KIN OE Concentration: EDUC 881, Statistics; KIN 883, Psychological Aspects of Adventure Education; KIN 884, Foundations of Adventure Education; KIN 885, Program Models and Evaluation in Outdoor Education; KIN 886, Organization and Administration of Outdoor Education Programs; KIN 887, Theory of Adventure Education; KIN 901, Analysis of Professional Literature.

Integrated M.S.W./M.S. Dual Degree Program: The UNH Departments of Social Work and Kinesiology offer an Integrated M.S.W./M.S. Dual Graduate Degree Program. This program is the first of its kind in the nation. It organizes a significant number of existing resources and assets at UNH in a way that empowers participating students for a career in adventure therapy.

The use of adventure experiences as a therapeutic or socio-educational intervention for clients with mental health needs is well documented. Prospective graduate students in the SW/OE Integrated Dual-Degree program apply and need to be accepted into each separate graduate program. Upon acceptance in both programs, students progress through the integrated curriculum, graduating from both programs at the end of their third year. The exception to this would be an Advanced Standing student in social work, who could graduate from both programs in two years. In order to graduate with the dual degrees, the student completes a 24-hour per week social work/adventure therapy-related field internship in their third year as well as an Outdoor Education Thesis or Advanced Studies Project in their last semester. Contact Dr. Michael Gass for additional information.

Any remaining coursework in each concentration should be taken within the Department of Kinesiology; however, approval may be granted to take relevant courses outside the department.

**Thesis plan:** A minimum of 30 approved graduate credits, including a thesis (24 graduate course credits plus 6 thesis credits), as well as an oral defense of the thesis, are required in the thesis plan.

**Non-thesis plan:** A minimum of eight approved graduate courses (with a minimum of 30 credits) are required in the non-thesis plan. Four credits of KIN 895, Advanced Studies, are required. A student may take KIN 895 only after completing at least three approved graduate courses including KIN 901.

**Advanced research plan:** Exercise science students who elect this plan must take 6 credits of KIN 896, Advanced Research in Exercise Science. Outdoor education students who elect this plan must take 6 credits of KIN 897, Advanced Research in Outdoor Education. In addition, exercise science and outdoor education students must orally defend their research.

Dual degree students take classes simultaneously over the course of three years in both kinesiology: outdoor education and social work and complete a minimum of 77 credits for graduation. This includes two internships, one during their first year of study and a second specialized internship during the third year, which concentrates on the utilization and application of adventure therapy in an agency setting.

### Certificate in Adapted Physical Education

The Department of Kinesiology at the University of New Hampshire now offers a graduate certificate in adapted physical education. The intent of this certificate is to better prepare teachers to enhance their overall knowledge of students with disabilities in general adapted physical education and recreation settings. For more information, please contact Michelle Grenier at (603) 862-1835 or email [grenier@unh.edu](mailto:grenier@unh.edu).

#### Certificate Requirements

Students must hold a baccalaureate degree from an accredited college or university and have a valid New Hampshire physical education teaching license or be enrolled in the master in education program at the University of New Hampshire and complete 15 credit hours of specified coursework. A minimum of 15 graduate credits are required for the certificate. Required courses: KIN 831, Inclusive Teaching Through Sport; KIN 742/842, PE Practicum for Students with Disabilities; KIN 895, Advanced Studies.

#### Applying

Please visit the [Graduate School website](#) for information about applying to the certificate program.

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### Languages, Literatures, and Cultures (LLC) ▼

» <http://www.unh.edu/languages/>

» [Click to view course offerings](#)

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### Liberal Studies (LS) ▼

» <http://www.unh.edu/mals>

» [Click to view course offerings](#)

*This program is offered in Durham.*

### **Degree Offered: M.A.L.S.**

The program offers a master of arts in liberal studies (M.A.L.S.) degree. The master of arts in liberal studies is an innovative, interdisciplinary graduate program. Housed within the College of Liberal Arts but drawing its courses and instructors from across the University, the program makes available a diverse spectrum of offerings and a wealth of faculty expertise and resources.

The liberal studies curriculum is intended to promote broad intellectual comprehension and enrichment rather than vocational or professional training within a single field or discipline. Designed to address the particular interests of students who seek to deepen their knowledge, the program offers a challenging but flexible program of cross-disciplinary learning.

### **Admission Requirements**

Admission to the master of arts in liberal studies is selective. A bachelor's degree is required for admission. Students will be asked to provide relevant transcripts of their educational experience, a resume, and letters of recommendation. They will also be asked to submit a brief essay describing why they are particularly interested in this program and indicating the sort of interdisciplinary focus or area of learning in which they might like to concentrate their study. The Graduate Record Exam (GRE) is not required but is helpful.

### **Degree Requirements**

The program consists of seven courses (30 credits) divided into three parts: a core seminar specifically designed for and required of every student, to be taken within one year of entrance to the program; a concentration made up of five elective courses chosen from various disciplines across the liberal arts that centers on an interdisciplinary theme or topic; and a master's thesis or project, which is intended to act as an integrating capstone experience for liberal studies students.

**Core seminar LS 800 (4 credits):** Each liberal studies student is required to take one core seminar as an introduction to the program as a whole. The seminar must be taken within the first year of a student's matriculation in the program, preferably in the first semester. Although all core seminars focus on interdisciplinary issues and themes, each is meant to introduce students to different topics and divergent disciplines from across the liberal arts such as literature, the arts, philosophy, history, women's studies, political science, and sociology.

**Concentration (20 credits):** Students will work with the director of the program and a concentration and thesis adviser to develop an interdisciplinary concentration program of study, which focuses on a significant topic, issue, perspective, or cultural development, and is made up of five graduate-level elective courses offered in various departments throughout the college and University. A concentration should constitute a sustained thematic exploration and may be selected from a menu of suggested concentrations or may be self-designed by each student with the help of his or her adviser. The five courses are to be selected from 700-900-level courses regularly offered within departments and colleges across the University, including up to three independent study courses carried out as a tutorial with particular faculty members (with permission). It is expected that a student's concentration will culminate in a concluding final project or thesis.

The following are typical examples of cross-disciplinary concentration programs of study: American studies, the humanities, ecology and values, justice studies, labor studies, religious studies, urban studies, and women's studies.

**LS 898, Project, or LS 899, Thesis (6 credits):** With the support of their concentration and thesis adviser, students prepare a final project consistent with their concentration and interests. A capstone experience, the project can be a scholarly thesis or equivalent creative endeavor, which integrates the student's learning in a particular concentration. The director of the program will meet periodically with those students enrolled for thesis credit in order to provide a forum for discussing their research and writing.

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### Life Sciences and Agriculture (LSA) ▼

» <http://www.colsa.unh.edu/academics/>

» [Click to view course offerings](#)

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## Materials Science (MS) ▼

» <http://www.unh.edu/materials-science/>

» [Click to view course offerings](#)

*This program is offered in Durham.*

*Assistant Professor: Leila Deravi*

### **Degrees Offered: M.S., Ph.D.**

The materials science program offers the master of science degree in materials science and doctor of philosophy degree in materials science and engineering. The program offers research opportunities over a broad range of areas including synthesis and characterization of thin films, fullerenes and nanotubes, molecular templates, self-organizing nanostructures, polymers and polymer nanoparticles, using scanning probe microscopy, physical and chemical vapor deposition methods, micromechanics, molecular beam mass spectrometry, and computational methods.

### **Admission Requirements**

Admission to the master of science and doctor of philosophy degrees is based upon a strong undergraduate record. A minimum GPA of 3.0 is required, but undergraduate students with exceptional experience or other mitigating factors will be considered. Except under special circumstances, applicants must submit current scores (within five years) from the general test of the Graduate Record Examination (GRE). Since materials science is an interdisciplinary field, students from mechanical engineering, chemical engineering, electrical engineering, chemistry, mathematics, physics, and other engineering- and science-related disciplines will be considered. A suitable undergraduate program should contain: multivariable calculus and differential equations, two semesters of university (calculus-based) physics, one semester of thermodynamics or physical chemistry, one semester of computer programming, one semester each of fluid mechanics and heat transfer or two semesters of solid mechanics, and one semester of materials science. Members of the faculty are available to evaluate each student's undergraduate curriculum. A series of appropriate courses will be required for those students with deficiencies in their undergraduate program.

Qualified physics students at the University of New Hampshire may be admitted to an accelerated program leading to a combined bachelor of science degree in physics and a master's degree in materials science within a total of five years. Please consult the materials science website for details.

### **Degree Requirements**

#### **M.S. Degree Requirements**

A student will meet the Graduate School's requirements for the master's degree (30 credits) and will complete either a thesis option and a project option. In both options, the student is required to take MS 860, Thermodynamics and Kinetics of Materials I; MS 961, Thermodynamics and Kinetics of Materials II; one course each satisfying the areas of synthesis and processing, characterization, and structure-property relationships, and two semesters of MS 900, Materials Science Seminar.

For the **thesis option**, the student will take one additional course (24 course credits) in addition to 6 credits of MS 899, Master's Thesis.

For the **project option**, the student will take two additional courses (27 course credits) in addition to 3 credits of MS 898, Master's Project.

All students are expected to take at least 6 course credits at the 900 level. Students who have done graduate work at other schools that included courses similar to those in the Materials Science Program may petition for waivers of UNH degree requirements.

#### **Ph.D. Degree Requirements**

Students must complete 39 postbaccalaureate course credits. The student is expected to take MS 860, Thermodynamics and Kinetics of Materials I; MS 961, Thermodynamics and Kinetics of Materials II; one course each satisfying the areas of synthesis and processing, characterization, and structure-property relationships, and two semesters of MS 900, Materials Science Seminar. In addition, the student must take five additional courses with at least 12 total credits at the 900 level (including those courses taken at the master's level). Students who have done graduate work at other schools that included courses similar to those in the Materials Science Program may petition for waivers of UNH degree requirements.

The student will be advanced to candidacy after he or she has completed an M.S. degree or 24 credits of graduate courses with at least 6 credits at the 900 level and the qualifying examination. The qualifying exam shall consist of two parts. The student must present a written proposal adhering to NSF guidelines, followed by an oral defense of that proposal. In addition, the student must submit a substantive review paper and an oral presentation on that paper. A materials science program faculty committee will determine the subject of the paper. A substantive record of publication in conjunction with an oral presentation at a conference may substitute for the review paper. A materials science program faculty committee will decide whether the previous publication record is substantive. The committee will evaluate the paper, the proposal, and the two oral presentations to determine whether the student is suitably prepared for graduate research at the Ph.D. level. The proposal and paper for the qualifying exam should normally be completed within six months of completing 24 credits of coursework.

Upon the successful completion of the qualifying examination, the student is advanced to candidacy and, upon the recommendation of the graduate coordinator, a doctoral committee is appointed by the dean of the Graduate School. The doctoral committee conducts an annual review of the student's progress, supervises and approves the doctoral dissertation, and administers the final dissertation defense.

## Courses

The link to course offerings below shows courses with a M.S. designation. Several other courses that count as electives in the Materials Science Program are taught by faculty in chemistry, mechanical engineering, physics, and other departments. For a complete list of these courses, please see the *Graduate Student Handbook* on the [materials science website](#).

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## Mathematics and Statistics (MATH) ▼

» <http://ceps.unh.edu/mathematics-statistics>

» [Click to view course offerings](#)

*This program is offered in Durham.*

*Assistant Professor: Sheree Taisha Sharpe*

## Degrees Offered: M.S., M.S.T., Ph.D.

### Certificate Offered: Industrial Statistics

The Department of Mathematics and Statistics offers programs leading to a master of science for teachers (M.S.T.) in mathematics, master of science in mathematics, master of science in mathematics with an option in applied mathematics, and a master of science in mathematics with an option in statistics. Students in the master of science in applied mathematics option may choose to study for the integrated applied mathematics (IAM) program. [Click here for additional information](#).

The department also offers doctor of philosophy programs in mathematics, applied mathematics, statistics, and mathematics education. Students in the doctor of philosophy in applied mathematics programs pursue the degree requirements of the integrated applied mathematics program ([click here for additional information](#)).

In general, the master's degree programs offer the student a high level of preparation for professional employment as well as appropriate preparation for programs leading to the Ph.D. The Ph.D. programs prepare the student primarily for a career in university teaching and research.

The graduate programs have limited enrollment, allowing students to work closely with faculty members in their areas of expertise. Research within the department is currently being conducted in many areas of the mathematical sciences, including: operator theory, Hilbert spaces, geometric function theory, complex analysis, ring theory, commutative algebra, homological algebra, quantum groups, tensor categories, combinatorics, topology, algebraic topology, category theory, nonlinear dynamics and chaos, data compression, chaotic prediction and control, spectral analysis, asymptotic analysis, mathematical control theory, environmental statistics, spatial and spatio-temporal statistics, Bayesian and computational statistics, wavelets in statistics, teaching and learning of mathematics, teaching and learning of probability and statistics, mathematics curriculum and teacher education, calculus learning, and undergraduate mathematics education.

Additionally, a graduate certificate in industrial statistics is offered.

## Admission Requirements

Applicants for the M.S. and Ph.D. degrees must have completed significant undergraduate coursework in mathematics, preferably in algebra, analysis, and topology. Applicants for the M.S. with applied mathematics option must have completed significant coursework in analysis or applied analysis. Applicants for the M.S. with statistics option will typically have an undergraduate degree in the mathematical, physical, biological, or social sciences or in engineering; must have completed mathematical coursework at least through multivariate calculus; and must have knowledge of basic statistics and basic linear algebra at the undergraduate level. Applicants for the degree of master of science for teachers (M.S.T.) usually possess a background equivalent to at least a minor in mathematics and must have completed education courses sufficient for certification, or have three years teaching experience, or currently hold a full-time teaching position.

## **Degree Requirements**

### **M.S. Degree Requirements**

#### ***Pure Mathematics Option***

This program requires 30 credit hours, consisting of at least 10 semester courses approved by the department and chosen from courses in MATH 801-899, MATH 931-978 and IAM courses 830-962. The following stipulations apply:

At least five of the 10 courses must be chosen from MATH 931-978 or from 900-level IAM courses.

At least three courses must be chosen from MATH 931-956.

Courses in MATH 900 through MATH 929 may not be used to satisfy course requirements.

With approval of the graduate committee, two non-MATH graduate-level courses taken at UNH may be used to satisfy course requirements.

As a concluding experience, the student will take an oral exam before a committee of three faculty members. The committee membership is suggested by the student and is approved by the graduate program committee.

#### ***Applied Mathematics Option***

This program requires 30 credit hours, consisting of the courses MATH 931, IAM 933, an approved two-course sequence in applied mathematics (such as MATH 967/977). In addition to these courses, the student chooses either a thesis or project option. The thesis option consists of 6 credits of Master's Thesis (MATH 899) and four elective courses. The project option consists of 3 credits of Master's Project (MATH 898) and five elective courses. The elective courses need not be in mathematics, but must be at the 800 level or higher, and at least one must be a technical course in statistics or some other department. The broad elective flexibility allows the student's application interests to have a substantial role in the content of the program. The student's full program plan must be proposed in writing to the applied mathematics faculty and approved prior to the student's second semester of study. There is no comprehensive examination in this option.

#### ***Statistics Option***

This program requires 30 credit hours, consisting of at least ten semester courses approved by the department, which includes completion of a project (MATH 898) consisting of a substantial application of statistical methodology to a real problem. Most of the courses will be taken from the department's statistics courses in the range MATH 837-979 and must include all of MATH 839, 840, 855, and 856, unless some of these or equivalent courses were taken prior to enrollment in the program. At most, three of the required ten courses may also be taken from the department's approved nonstatistics courses (in the range MATH 837-979) and/or approved courses offered in other departments. MATH 898, the Master's Project, is conducted under the supervision of a faculty adviser and concludes with a written report and a public oral presentation. MATH 898 may be taken for 3 to 6 credits, depending on the level of substantial research and methodological development required for project completion; the appropriate number of credits is determined by the statistics faculty. A master's committee of at least two statistics faculty members oversees the student's progress and determines credit for the project. There is no comprehensive examination in this option.

#### ***M.S.T. Degree Requirements***

The program requires 30 credit hours of coursework, which must include MATH 900, 905, 906, 909, 913, 915, 918 and 925. In addition to the 22 credit hours from the required courses, at least eight additional credit hours must be taken from courses numbered MATH 900-929. A concluding experience consisting of a mathematics portfolio and a comprehensive problem set is required. The program courses will be a combination of regular summer courses and academic-year online courses; a typical student in the program might expect to take as many as four program courses online. .

### **Ph.D. Requirements**

The following are the requirements for completing the Ph.D. programs.

#### **Candidacy**

Students are advanced to candidacy after meeting the following requirements:

#### ***Doctor of Philosophy in Mathematics***

1. All of the courses MATH 951, 952, 953, 954, 955.



2. Mathematics Ph.D. students must pass written comprehensive examinations in algebra, analysis, topology and an elective subject. Elective subjects include functional analysis, algebraic topology, applied mathematics, statistics, advanced algebra, advanced complex analysis, advanced mathematics education, et al.

3. Advanced coursework in a minor field (usually within mathematics, but possibly in another area of the mathematical sciences), and a major field (that of the student's intended dissertation work) followed by successful completion of oral examinations in their minor and major areas.

4. Experience in teaching equivalent to at least half-time for one year

### ***Doctor of Philosophy in Statistics***

1. All of the courses MATH 836, 839, 840, 855, 856..

2. Successful completion of written qualifying examinations in theory of statistics and in applied statistics

3. Advanced coursework in statistics: all of the courses MATH 941, 945, 946; three elective courses from among MATH 837, 841, 843, 844, 942, 944, 969, 979 (MATH 969 and 979 are topics courses and may be taken more than once)

4. Minor coursework: one course in analysis (either MATH 867 or MATH 953) and two courses in a focused minor area to be selected in consultation with the program advisor

5. Participation in the one-credit statistics seminar during at least three semesters

6. Successful completion of a dissertation proposal defense in the major field of statistics

### ***Doctor of Philosophy in Mathematics Education***

1. All of the courses MATH 951, 952, 953, 954, 955.

2. Successful completion of written comprehensive examinations in algebra, analysis, mathematics education and an elective subject.

3. Advanced coursework in the major field (mathematics education), including MATH 958, 968A, and 968B, and at least two semesters of MATH 978, and in a minor field (usually a related one, such as educational psychology or research methodology, but possibly in an area of mathematics) followed by qualifying examinations in each.

4. Successful completion of a dissertation proposal defense in the major field of mathematics education and a presentation in the minor field.

5. Experience in teaching equivalent to at least half-time for one year

### ***Doctor of Philosophy in Applied Mathematics***

1. Must take nine courses totaling 27 credits from the following list: PHYS 931, IAM 830, IAM 851, IAM 932, IAM 933, IAM 961, IAM 962. One of the following 2-course sequences can also apply: MATH 847/IAM 950, ME 807/ME 909 or PHYS 953/PHYS 951.

2. In addition, must take a minimum of three technical electives totaling 9 credits from the following list: IAM 940, ME 812, ME 911, and other approved courses.

3. Pass a three-part Ph.D. qualifying exam:

\*Comprehensive exam in mathematical methods

\*Comprehensive exam in numerical analysis and HPC

\*Oral or written exam in specialization area

4. Seminar presentation of thesis proposal to dissertation committee.

### **Dissertation**

Each Ph.D. student must submit a dissertation as follows:

Doctor of Philosophy in Mathematics: A dissertation that includes original results in mathematics.

Doctor of Philosophy in Statistics: A dissertation that includes original results in statistics.

Doctor of Philosophy in Mathematics Education: A dissertation that includes original results in mathematics education.

Doctor of Philosophy in Applied Mathematics: A dissertation that includes original results in Integrated Applied Mathematics.

### Certificate in Industrial Statistics

The Department of Mathematics and Statistics offers a graduate certificate in the area of industrial statistics. For more information please visit the [mathematics and statistics website](#).

### Admissions Requirement

Individuals holding a bachelor's degree are eligible to apply for admission to a graduate certificate program.

### Applying

Please visit the [Graduate School website](#) for detailed instructions about applying to the certificate program.

### Certificate Requirements

A graduate certificate in industrial statistics is awarded for completion of four courses as follows:

*\*\*Note that all of these have as a prerequisite an introductory statistics course, such as MATH 835, Statistical Methods for Research.*

### Three required courses chosen from:

Abbreviation	Course Number	Title
MATH	836	Advanced Statistical Methods for Research
MATH	837	Statistical Quality Improvement (SQI)
MATH	839	Applied Regression Analysis
MATH	840	Design of Experiments I
		Note that all of these have as a prerequisite an introductory statistics course, such as MATH 835, Statistical Methods for Research.

### One elective course chosen from the remaining course of the

Abbreviation	Course Number	Title
MATH	841	Biostatistics and Life Testing
MATH	843	Time Series Analysis
MATH	844	Design of Experiments II (DOE II)
MATH	855	Probability and Stochastic Processes
MATH	941	Bayesian and Computational Statistics
MATH	942	Beyond ANOVA: Generalized Linear & Semi-parametric Smoothing Methods
MATH	944	Spatial Statistics
		or any other approved special topics course in the area of industrial statistics Other special topics courses are occasionally offered and may be added to the list of elective courses.

## Mechanical Engineering (ME) ▼

» <http://www.unh.edu/mechanical-engineering/>

» [Click to view course offerings](#)

*This program is offered in Durham.*

*Professor: John Hughes Clarke*

### **Degrees Offered: M.Eng., M.S., Ph.D.**

The Department of Mechanical Engineering offers degree programs at both the master's and doctoral levels. The department offers studies leading to specialization in the following six concentrations: fluid and thermal science, mechanics, materials science, design and manufacturing, dynamic systems and control, and ocean engineering.

### **Admission Requirements**

A bachelor of science degree in mechanical engineering is normally required for admission to the graduate program in mechanical engineering. Students from other disciplines may also be admitted to the program. However, in order to be properly prepared for graduate-level coursework, these students must have taken the equivalent of the UNH mechanical engineering undergraduate core courses listed below. Students who are deficient in three or fewer courses may be admitted to the department on a provisional basis. Students who are deficient in more than three courses must apply and enroll as an undergraduate student until they meet the core course requirement. It is department policy that engineering courses taken as part of an engineering technology program are generally not considered equivalent to any of the courses listed below. The decision on equivalence for any courses taken at an institution other than UNH is at the discretion of the Graduate Committee of the Mechanical Engineering Department.

Applicants must submit current scores (within five years) from the general test of the Graduate Record Examination (GRE).

### **Core courses required for admission to the M.S. in mechanical engineering degree program:**

#### **Mathematics and Physics Courses:**

MATH 425, Calculus I; MATH 426, Calculus II; MATH 527, Differential Equations; MATH 528, Multi-Dimensional Calculus; PHYS 407, General Physics; PHYS 408, General Physics II

#### **Mechanics Courses:**

ME 525, Statics; ME 526, Mechanics of Materials; ME 627, Dynamics; ME 643, Machine Design

#### **Thermal Sciences:**

ME 503, Thermodynamics; ME 608, Fluid Mechanics; ME 603, Heat Transfer

#### **Other Courses:**

ME 561, Materials Science; ME 670, Systems Modeling and Controls; ECE 537 Introduction to Electrical Engineering

### **Degree Requirements**

#### **Master of Science**

Each candidate must complete 24 credit hours of coursework, 8 credit hours of ME 899, Master's Thesis, and defend the thesis. The coursework must include at least two 900-level courses of 3 or more credits each. A "B" average (3.00 GPA) with no grade below "B-" is required in all the coursework. No more than 12 credit hours from UNH graduate courses (8 credit hours from non-UNH graduate courses) taken prior to admission to the Graduate School may be applied to the master's degree. Note: an oral examination (thesis defense) covering the candidate's graduate work is conducted and a thesis is prepared in accordance with the [Graduate School rules](#).

All full-time graduate students are required to attend a weekly Mechanical Engineering Graduate Seminar and make one presentation per year.

#### **Master of Engineering**

Each candidate must complete 28 credit hours of coursework, 4 credit hours of ME 992, Master's Project, and present a project. Two 900-level courses of at least 3 credits each must be taken in addition to ME 992. Individuals who can demonstrate accomplishments from professional engineering experience comparable to that expected from a master's project may petition the department to substitute an additional 900-level course for the ME 992, Master's Project, requirement. A "B" average (3.00 GPA) with no grade below "B-" is required in all the coursework. No more than 12 credit hours from UNH graduate courses (8 credit hours from non-UNH graduate courses) taken prior to admission to the Graduate School may be applied to the master's degree. A written report and an oral presentation of the project are required. The format of the project report is determined by the candidate's research adviser. Master of engineering students are usually not eligible for a research or teaching assistantship.

All full-time graduate students are required to attend a weekly M.E. Graduate Seminar and make one presentation per year.

### **Ph.D. in Mechanical Engineering**

Following admission into the program, a temporary research adviser and a guidance committee consisting of three professors including the research adviser are appointed for the student by the graduate coordinator. The student's research adviser assists in outlining the student's course of study and may specify individual coursework requirements.

A student entering with a B.S. degree must successfully complete at least twelve 3- or 4-credit courses with five at the 900 level. Students entering with an M.S. degree in engineering are required to take a minimum of five 3- or 4-credit courses with three at the 900 level. This course requirement represents the department's minimum for any Ph.D. student. Students normally take more than the required number. Further course requirements are identified by the student's area of concentration and by the guidance committee. The guidance committee also administers the qualifying examination. Upon successful completion of required coursework and the qualifying examination, the student may advance to candidacy. A doctoral committee may be appointed once candidacy has been attained. The committee will have at least five members.

Each Ph.D. candidate must conduct research of sufficient originality and significance to warrant the awarding of the Ph.D. degree. The final examination (oral defense) is the defense of the student's dissertation. This will be scheduled in accordance with the Graduate School rules. The candidate will be informed of the results of the defense by the dissertation chair.

All full-time graduate students are required to attend a weekly M.E. Graduate Seminar and make one presentation per year.

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## Microbiology (MICR) ▼

» <http://mcbsgrad.unh.edu/microbiology>

» [Click to view course offerings](#)

*This program is offered in Durham.*

Please view as well, the course listings for molecular, cellular, and biological sciences (MCBS).

### **Degrees Offered: M.S., Ph.D.**

The Department of Molecular, Cellular, and Biomedical Science (MCBS) offers the master of science and the doctor of philosophy degrees in microbiology. Research opportunities are available in a broad range of areas, including plant-microbe interactions, signal transduction, microbial development, host-microbe interactions, environmental microbiology, environmental and molecular virology, microbial ecology, microbial evolution, microbial genetics and genomics, molecular microbiology, and biotechnology.

### **Admission Requirements**

Applicants are expected to have had adequate preparation in the biological and physical sciences. This typically includes general and organic chemistry, physics, one semester of calculus, a year of general biology, a semester or more of biochemistry, and general microbiology. Formal courses in quantitative analysis and statistics are recommended. Applicants with deficiencies in these background courses who are admitted to the program may be required to complete appropriate coursework without graduate credit. Applicants must submit current scores (within five years) from the general test of the Graduate Record Examination (GRE). Each applicant to the graduate program must be sponsored by a faculty member in the program. The sponsor's decision is usually based on the Statement of Interest section of the student's application to the Graduate School. Laboratory rotations are available to identify a faculty sponsor, but a mutual decision must be made before the start of the next semester. Persons planning to apply to the program should contact the microbiology graduate program coordinator to obtain information on the department.

### **Degree Requirements**

#### **M.S. Degree Requirements**

Students admitted to the M.S. program are required to conduct an independent research project in conjunction with a faculty adviser and must submit a thesis based on this research to a graduate committee, which determines its acceptability. Specific coursework is determined in conjunction with the graduate committee. A minimum of 30 credits, including 6-10 MICR 899 thesis credits, is required. All M.S. students are required to attend all seminars and present one seminar each year. A master's thesis and a formal defense are also required. In addition, the student must submit at least one manuscript for publication to a peer-reviewed journal.

## Ph.D. Degree Requirements

Students with appropriate academic training at the baccalaureate or master's level may be considered for admission to the doctoral program. Advancement to candidacy requires the successful completion of the following:

1. All courses required by the graduate committee
2. A written qualifying exam administered by the graduate program coordinator and graduate faculty
3. An independent research proposal developed in conjunction with a faculty adviser
4. An oral defense of the research proposal

Students enrolled in the doctoral program are required to complete one semester of teaching and successfully complete and defend a dissertation based on their research proposal. The acceptance of the dissertation is contingent on its approval by the doctoral committee and evidence that at least two manuscripts based on the thesis research have been submitted to a peer-reviewed journal appropriate to the topic.

All graduates are expected to enroll in MCBS 997, Seminar, each semester and present one seminar each year.

## Courses

For a complete listing of courses, check **microbiology** and **molecular, cellular, and biological sciences**.

» [Click to view course offerings](#)

^ [back to top](#)

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## Molecular and Evolutionary Systems Biology ▼

» <http://www.mcbs.unh.edu/>

» [Click to view course offerings](#)

*This program is offered in Durham.*

## Degree Offered: Ph.D.

The Molecular, Cellular and Biomedical Sciences department now offers a Ph.D. in molecular and evolutionary systems biology. The overarching goal of the MESB graduate program is to train a new generation of interdisciplinary researchers with expertise that spans molecular to evolutionary biology. For more information about this program, including specific requirements, please contact Vaughn Cooper at [vaughn.cooper@unh.edu](mailto:vaughn.cooper@unh.edu).

## Admission Requirements

Students applying for the Ph.D. program will be expected to present recent (within five years) general Graduate Record Examination (GRE) scores and possess a background in basic sciences appropriate for advanced study in the proposed area of specialization (for example, courses in biology, chemistry, organic chemistry, biochemistry, and physics). The student's committee may require certain undergraduate courses as part of the graduate program if additional competencies would be beneficial to the student.

## Degree Requirements

Degree requirements for the MESB Ph.D. degree include a series of core courses in scientific communications, applied bioinformatics, and ethical, legal, and social implications of modern biotechnology, as well as a research proposal, qualifying examinations, and the completion of a dissertation.

**Research proposal:** No later than at the conclusion of the second full semester of dissertation research (typically the third semester if rotating), students prepare a three-to-four-page, single-spaced, succinct synopsis of their thesis project, with citations. The synopsis includes:

- 1) Background: a summary of problem and general knowledge in the field
- 2) Hypotheses, questions, and relevance: articulates specific hypotheses, questions to be addressed, and importance of research
- 3) Approach: a general description of approaches with caveats, possible problems, alternative approaches, and resources of

expertise

4) Timeline: a general timeline for completion of the work

5) Communication: potential audiences for the work (meetings, publications)

Students submit this proposal to their guidance committee who will read it and provide input in a committee meeting, which should take place no later than the end of their third semester.

**Qualifying examination:** A qualifying examination has both a written and an oral section and is designed to test depth and breadth of knowledge in both the primary disciplinary area of study as well as in the student's area of research beyond the primary specialization. The exam also tests the student's ability to identify and describe significant and transformative research. Finally, it examines the student's ability to develop and defend an original research plan.

In order to prepare, students are encouraged to meet and discuss with their committee members the general topics likely to be covered during the oral exam. The written exam will be administered by the guidance committee in year three of study. The student will identify two current primary research papers (only one of which may be closely related to their dissertation research) that make a significant contributions to their respective fields. The committee will evaluate the student's choices, and either select one of the papers, require the student to select additional papers, or provide a paper of their choice as the subject of the written exam. The written exam consists of i) a short review of the article indicating why the work is significant (~1 page), and ii) a synopsis proposal of what the next steps are in the research, following the format of an NSF pre-proposal or a letter of intent (four-page limit). The proposed research must be original and unpublished. Exactly three weeks are given for the written exam. If the committee agrees the student has passed the written exam, the oral exam will be scheduled. If a student doesn't pass the written exam, guidance will be given to the student on what improvements must be made before scheduling a second attempt on the exam.

An oral defense of the review, synopsis proposal, and questions of general knowledge using the synopsis proposal as a vehicle will be conducted by the committee. Questions may also address the thesis project (which was presented to the committee the previous year). If desired, the student may provide a brief (10-minute maximum) update on their research at the beginning of the oral exam. The qualifying exam will be graded as Pass, Conditional Pass, or Not Pass. Students who conditionally pass likely had weaknesses identified by the committee, which can be remedied by additional work. Students who do not pass their exam showed insufficient mastery of material and will be required to repeat the oral exam at a later date.

**Advancement to candidacy:** The student is advanced to candidacy after the qualifying examination has been successfully passed, coursework and other requirements have been fulfilled, and the proposed subject of the dissertation declared.

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## Molecular, Cellular, and Biomedical Sciences (MCBS) ▼

» <http://microbiology.unh.edu>

» [Click to view course offerings](#)

*Assistant Professor:* Jeffrey T. Foster, David C. Plachetzki

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## Music (MUSI) ▼

» <http://www.unh.edu/music>

» [Click to view course offerings](#)

*This program is offered in Durham.*

Please view as well, the course listings for music education (MUED).

### **Degree Offered: M.A.**

The Department of Music offers programs leading to the degree of master of arts with options in composition, conducting, and musicology. Each program emphasizes a specific core curriculum that is complemented by a range of supportive courses that foster a broad knowledge of music. There is also enough room for electives (nearly a third of the degree) so that each student may tailor coursework to fit his or her personal interests and needs. Graduates have established successful careers in performance, conducting, public school teaching, college teaching, and research. The program also serves as excellent preparation for doctoral study.

### **Admission Requirements**

For each option, a bachelor's degree in music or its equivalent from an accredited institution is required for admission. Graduate Record Exams are not required. Additional requirements for all applicants include:

An entrance exam in music theory and music history, taken upon completion of your on-line application with the Graduate School. You are required to take the exam on campus or arrange for an instructor at your current institution or similarly qualified person to proctor the exam for you. Please contact the Department of Music graduate coordinator for details. A sample of academic writing, preferably on a musical subject, should be submitted to the Department of Music graduate coordinator, either electronically (pdf file via email) or in hard copy. This might be a paper that has been submitted for a course.

Other admission requirements specific to the three degree areas include:

#### Composition

Applicants should submit a portfolio of compositions and arrange for an interview with Professor Christopher Kies or Professor Michael Annicchiarico.

#### Conducting

Applicants must perform a live conducting audition with one of the university ensembles. Please contact the director of bands or director of choral activities for details and to schedule an audition.

#### Musicology

A reading knowledge of both German and French is strongly recommended for candidates who intend to continue on for a Ph.D. in musicology.

### **Degree Requirements**

#### **Music: Composition. Master of Arts\*\***

The master of arts in composition option offers the opportunity for in-depth study of music composition. Some graduates of the program will go on to earn a doctoral degree in composition or music theory, while others will seek careers as film and theater composers, sound designers, teachers, and freelance writers. The program is responsive to the individual ambitions of its students to prepare them for their professional careers in the best way possible.

Completion of the program requires a final project in an area of interest. Projects can take several forms (for example, a composition, a composition recital, a lecture recital, a research paper, etc.) and are usually proposed and developed in concert with the graduate studies coordinator and a faculty member who serves as the project adviser. A final oral examination assesses the candidate's ability to apply compositional skills, and/or to describe advanced independent work of particular interest.

All of the Master of Arts in Music options require 30 credit hours as well as a final project for completion of the degree.

<i>Concentration</i>		Credits
MUSI 875-876	Composition	6
MUSI 877	Composition	3
MUSI 991	Research Seminar	3
<b>Total Concentration</b>		<b>12</b>

#### *Supportive Courses in Music*

MUSI 955	Introduction to Bibliography	3
MUSI 994	Theory Seminar: Analysis	3
MUSI 959	Readings in Music History/Musicology Seminar	3
<b>Total Supportive Courses in Music</b>		<b>9</b>

*Electives may be chosen from the following:*

MUSI 881-882	Analysis: Form and Structure	3-6
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MUSI 803-811	Music History Period Course	3-9
MUSI 831-832	Conducting	2-4
<b>Total Electives</b>		<b>9</b>

**Concentration** and Supportive Courses are required; other electives are possible.

*\*\*Plan approval and accreditation for degree program pending from the National Association of Schools of Music.*

### **Music: Conducting, Master of Arts**

The master of arts in conducting option offers the opportunity for in-depth study of either instrumental or choral conducting. The program is intended for those who wish to improve their skills and knowledge for use in the school classroom or to prepare for doctoral programs in conducting.

Completion of the program requires a conducting recital and/or significant performances with one of the major university ensembles. A comprehensive oral examination will include discussion of the recital music, appropriate score identification, and questions focused on music history, theory, or education, to be determined in consultation with the members of the candidate's oral examination committee.

All of the Master of Arts in Music options require 30 credit hours as well as a final project for completion of the degree.

<i>Concentration</i>		Credits
MUSI 831	Advanced Instrumental Conducting (3 semesters)	6
or MUSI 832	Advanced Choral Conducting (3 semesters)	
MUED 983	Instrumental Literature and Performance	3
or MUED 995	Choral Literature and Performance	
MUSI 991	Research Seminar (conducting recital)	3
<b>Total Concentration</b>		<b>12</b>

### *Supportive Courses in Music*

MUSI 955	Introduction to Bibliography	3
MUSI 994	Theory Seminar: Analysis	3
MUSI 959	Readings in Music History (choose one)/Musicology Seminar	3
<b>Total Supportive Courses in Music</b>		<b>9</b>

*Electives may be chosen from the following:*

MUED 841; 845-851	Techniques and Methods	2-9
MUED 855	Vocal Pedagogy	2
MUED 871	Marching Band Methods	2
MUED 865	Instrumental Music Methods	2
MUED 895	Special Studies: Jazz	1-4
MUED 996	Foundations of Music Education	4
MUSI 841-864	Applied Instrument Instruction	1-9
<b>Total Electives</b>		<b>9</b>

Concentration and Supportive Courses are required; other electives are possible.

### **Music: Musicology, Master of Arts**

The master of arts in musicology offers the opportunity for in-depth study of music history, theory, and criticism. The option is valuable to students who wish to augment undergraduate degrees in performance and/or music education with more intensive academic studies. The Department of Music has maintained a long history of excellence in music historical study and performance.



Many graduates have gone on to pursue Ph.D.s and D.M.A.s in music. The M.A. in musicology offers enough electives so that students may also pursue advanced study in performance of an instrument or voice if qualified and accepted by an instructor upon a successful audition.

Completion of the program requires a written research project of substantive nature on a topic of the candidate's special interest. An alternative for some students will be a lecture-recital and written essay. Students emphasizing performance are encouraged to present public recitals in addition to the above. A final oral examination assesses the ability to apply critical thinking to music literature and to describe personal advanced independent work of particular interest.

All of the Master of Arts in Music options require 30 credit hours as well as a final project for completion of the degree.

<i>Concentration</i>		Credits
MUSI 959	Readings in Music History/Musicology Seminar	9*
MUSI 991	Research Seminar (capstone project)	3
<b>Total Concentration</b>		<b>12</b>

#### *Supportive Courses in Music*

MUSI 955	Introduction to Bibliography	3
MUSI 994	Theory Seminar: Analysis	3
MUSI 803–811	Music History Period Course	3
<b>Total Supportive Courses in Music</b>		<b>9</b>

*Electives may be chosen from the following:*

MUSI 803–811	Music History Period Courses	3-9
MUSI 871–872	Counterpoint	3
MUSI 881-882	Analysis: Form and Structure	3-6
MUSI 841–864	Applied Instruction	1-8
<b>Total Electives</b>		<b>9</b>

Concentration and Supportive Courses are required; other electives are possible.

\* Enroll in MUSI 959 three times, usually with three different instructors.

## **Courses**

For a complete listing of courses, check both **music** and **music education**.

» [Click to view course offerings](#)

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## Music Education (MUED) ▼

» <http://www.unh.edu/music>

» [Click to view course offerings](#)

*This program is offered in Durham.*

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## Natural Resources (NR) ▼

» <http://www.naturalresources.unh.edu/>

» [Click to view course offerings](#)

*This program is offered in Durham.*

### **Degree Offered: M.S.**

**Note: Effective Spring 2016 the Department of Natural Resources has suspended admission to the Natural Resources: TIDES (Integrated Coastal Ecosystem Science, Policy, and Management) option.**

The Department of Natural Resources and the Environment offers a master of science in natural resources in the following options.

#### **Natural Resources: Environmental Conservation**

Areas of interest include natural resource policy, conservation biology, sustainability, ecological ethics and values, international environmental affairs, and spatial data analysis (remote sensing and GIS).

The Environmental Conservation option has a specific requirement of one ecology course from the following options:

NR 806: Soil Ecology

NR 811: Wetland Ecology and Management

NR 830: Terrestrial Ecosystem

NR 834: Tropical Ecology

NR 857: Aquatic Ecosystem

NR 965: Community Ecology

ZOOL 825: Marine Ecology

#### **Natural Resources: Environmental Economics**

Areas of interest include agricultural economics, community and regional economics, land economics, water economics, and environmental economics.

The Environmental Economics option has two specific required courses.

ECON 926: Econometrics 1

ECON 976: Microeconomics

#### **Natural Resources: Forestry**

Areas of interest include forest resource economics and management, biometrics, genetics, forest ecosystem dynamics, and spatial data analysis (remote sensing and GIS).

#### **Natural Resources: General**

This program is designed for students whose work crosses disciplinary boundaries within the natural resources and does not easily fit within one of the existing options. Students can later choose to specify one of the six options if their research interests change or if they become specific to one individual area.

#### **Natural Resources: Soil and Water Resource Management**

Areas of interest include wetlands, land-water interactions, groundwater chemistry, and biogeochemistry.

#### **Natural Resources: TIDES (Integrated Coastal Ecosystem Science, Policy, and Management)**

Areas of interest include ecosystem science, coastal resource management, natural resources and environmental policy, and marine resource education.

#### **Natural Resources: Wildlife and Conservation Biology**

Areas of interest include field and laboratory aspects of wildlife energetics, wildlife use of managed and unmanaged forest systems, habitat management and fragmentation, conservation biology, wetland wildlife ecology, and population dynamics.

### **Admission Requirements**

Applicants are expected to have completed either an undergraduate degree in the field in which they plan to specialize or show adequate preparation in the basic support courses of the field. Students with good undergraduate records who lack a background in a particular field may be admitted to a program, provided they are prepared to correct any deficiencies. All entering students must have taken at least one basic statistics course. Applicants must submit current scores (within five years) from the general test of the Graduate Record Examination (GRE).

Students entering the forestry option may elect to develop concentrations within any of the above-listed areas. Applicants are expected to have backgrounds in forestry or related biological sciences. Students interested in soil and water resource management are required to have adequate preparation in chemistry and mathematics as well as biological or Earth sciences. Students interested in wildlife and conservation biology are expected to have adequate preparation in biological sciences, chemistry, and mathematics. Students interested in environmental conservation should have a background appropriate for their area of interest. Since environmental conservation covers such a broad area, applicants are always reviewed carefully on an individual basis. Students interested in environmental economics should have a background in both economics and the environment. Four or more undergraduate courses in economics or environmental economics, including intermediate microeconomics and intermediate macroeconomics, are required as well as calculus and statistics. Students interested in the TIDES (Integrated Coastal Ecosystem Science, Policy, and Management) option are required to have adequate preparation in ecology, social sciences, and statistics.

Prior to submitting an application, applicants should contact one or more graduate faculty advisers to discuss programs and funding, and secure a commitment of a faculty member to serve as graduate adviser.

### **Degree Requirements**

An M.S. degree is conferred upon successful completion of a program of not less than 30 credits for natural resources options: forestry, environmental conservation, environmental economics, general, soil and water resource management, and wildlife and conservation biology.

#### Course requirements or equivalents:

NR 903, Approach to Research (2 credits) and

One additional research methods class:

NR 904, Survey Research Methods (2 credits) or

NR 905, Grant Writing (2 credits) or

LSA 950, Scientific Communication (2 credits)

NR 993, Seminar **or** NR 947, Current Issues in Ecosystem Ecology

NR 996, Natural Resource Education

One Quantitative methods course:

BIOL 811 - Applied Biostatistics

ECON 926 - Econometrics I

KIN 900 - Applied Statistics

MATH 835 - Statistical Methods for Researchers

MATH 840 - Design of Experiments I

MATH 969 - Topics in Probability and Statistics I

NR 813 - Quantitative Ecology

NR 909 - Analysis of Ecological Communities and Complex Data

POLT 905 - Introduction to Statistical Analysis

PSYC 905 - Research Methodology and Statistics I

PSYC 907 - Research Methods and Statistics III

SOC 901 - Sociological Methods I: Intermediate Social Statistics

SOC 903 - Sociological Methods III: Advanced Social Statistics

SOC 904 - Sociological Methods IV, Qualitative and Historical Research Methods

NR 899 (6-10 credits), Master's Thesis and a formal presentation of the thesis **or**

NR 998 (4 credits), Directed Research and directed research results

#### Environmental Conservation Option Requirements:

One course in Ecology:

NR 806: Soil Ecology

NR 811: Wetland Ecology and Management

NR 830: Terrestrial Ecosystem

NR 834: Tropical Ecology

NR 857: Aquatic Ecosystem

NR 965: Community Ecology

ZOOL 825: Marine Ecology

#### Environmental Economics Option Requirements:

ECON 926, Econometrics I

ECON 976, Microeconomics I

Natural Resources: TIDES option requires a minimum of 36 credits.

NR: TIDES course requirements or equivalents:

NR 915, Seminar: Coastal Challenges for Science-Policy Collaborations  
NR 916, Linking Decision-making and Coastal Ecosystem Science  
NR 917, Coastal Ecosystem Science Policy and Management Internship  
NR 824, Resolving Environmental Conflicts  
An approved research methods course  
Quantitative methods course  
One ecology course  
One resource management course  
NR 998, Directed Research and directed research results

\* The thesis option will provide a research-based thesis that is the foundation for a peer-reviewed publication.

\*\* The directed research option shall consist of a project, designed and conducted by the student, culminating in a scholarly paper or report that is suitable for publication in the respective field of scholarship.

Approved program of study plan during the first semester.

### **A Cooperative Doctoral Program**

The Department of Natural Resources and the Environment participates in the Natural Resources and Earth System Science Ph.D. Program (NRESS), an interdepartmental degree offered at UNH. For further details on this program, please visit the NRESS program page.

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## Natural Resources and Earth Systems Science (NRES) ▼

» <http://www.unh.edu/nressphd/>

» [Click to view course offerings](#)

*This program is offered in Durham.*

<b>Full Program Name</b>	Natural Resources and Earth Systems Science Ph.D. Program
<b>Short Name/Abbreviation</b>	NRESS
<b>Course Only</b>	No
<b>URL (Please be sure to include http://www)</b>	<a href="http://www.unh.edu/nressphd/">http://www.unh.edu/nressphd/</a>
<b>Courses Link</b>	<a href="#">grad-nres</a> <a href="#">Latest Course Descriptions</a>
<b>Program Locations</b>	Durham-Yes Manchester-No
<b>Grad School Only</b>	No

### **Degree Offered: Ph.D.**

The graduate program in Natural Resources and Earth Systems Science (NRESS) is an interdepartmental program offering the Ph.D. degree for interdisciplinary work in areas related to the understanding and management of the environment in the broadest context. Areas of study include, but are not limited to, ecosystem science, biogeochemical cycling, geochemical systems, atmospheric science, environmental philosophy, forestry, geologic science, hydrology, marine science, oceanography, social science, environmental policy and ethics, environmental education, and multidisciplinary natural resources management.

The NRESS Ph.D. program offers two degrees:

#### [Ph.D. in Natural Resources and Environmental Studies \(NRES\)](#)

Students in NRES focus on problems dealing with the allocation and distribution of natural resources, policies at the local to global scale, and ethical and societal factors that affect resource management. Students receiving the Ph.D. degree in NRES will typically have a bachelor's and/or master's degree in economics, environmental conservation, philosophy, political science, or sociology.

#### [Ph.D. in Earth and Environmental Sciences \(EES\)](#)

Students in EES focus on problems dealing with the physical, chemical, and/or biological processes that affect earth and environmental systems. Students receiving the Ph.D. degree in EES will typically have a bachelor's and/or master's degree in biology, ecology, environmental science, geology, hydrology, or microbiology.

## **Admission Requirements**

Applicants to the NRESS Program come from a wide range of undergraduate majors and master's degree concentrations. Individuals are admitted based on the quality of their previous work and its relevance to the particular area of study they propose to pursue.

Students are expected to have completed a master's degree before entering the program, although this is not a requirement.

All applicants must identify an adviser before being admitted, and this faculty member must agree to serve as the applicant's adviser. Certain applicants may be admitted with deficiencies identified by their adviser and/or by the executive committee. These deficiencies normally must be corrected in the first year of the program. All applicants must submit GRE scores. Please see the program website for details on applying to the program.

## **Degree Requirements**

The requirements of the doctoral program are flexible to accommodate the diverse interests and needs of students. All students in the NRESS program must meet the requirements listed below.

### **Committees and Coursework**

The Ph.D. guidance and dissertation committees must consist of at least five members. The chair must be a member of the NRESS faculty. Three of the five members (including the chair) must be NRESS faculty, and committee members must be from more than one academic department. Students are strongly encouraged to include at least one off-campus member. Off-campus committee members must hold a doctoral degree and be approved by the student's adviser, the NRESS Program, and the Graduate School dean. Students should select the guidance committee in a timely manner, within one year for full-time students and two years for part-time students.

### **Core Area Course Requirements**

All students will take one course in each of four core areas while enrolled in the program: natural sciences, ethics/policy/law, methods, and seminar. Students are also required to take NRES 997, Interdisciplinary Research in Natural Resources and Earth and Environmental Sciences, preferably within the first year of enrollment. Any course used to satisfy the natural sciences, ethics/policy/law, and methods core areas must be a classroom course of at least 3 credits. The seminar course must be interactive and must be at least 1 credit. Independent study courses may not be used to satisfy core requirements. Students must complete a Preliminary Coursework Approval Form, which lists the student's planned coursework, within one year for full-time students and two years for part-time students. A Final Course Approval Form, with signatures from the adviser, committee members, and the NRESS program chair is submitted once the coursework is completed.

### **Students Entering the Program without a Master's Degree**

Students entering the program without a master's degree are expected to complete a minimum of 36 credit hours. There is not a specific credit requirement beyond the required four core courses and NRES 997 for students who have completed a M.S. or M.A. degree in a related field. Students enter the NRESS program with diverse backgrounds and preparation in their particular area of study. Therefore, final credit requirements are determined by the guidance committee and may include additional coursework necessary to enhance the student's selected field of study and/or correct any deficiencies in the student's previous program. Students may apply a maximum of 12 credits of independent study and/or seminar courses to their total course requirement.

### **Transfer Credits**

Graduate-level courses taken prior to admission may be transferred into the program and applied to the total only if they were not taken while matriculated in another degree program, as per Graduate School policy. These courses may not be used to meet the core course requirements. Transfer of credits must be approved by the adviser, the guidance committee, and the Graduate School.

### **Language Proficiency**

Language proficiency may be required at the discretion of the student's adviser/committee. If required, a student will need to show proficiency in one foreign language or one computer language.

### **Examinations**

Each student is required to pass three examinations, each of which has both a written and oral component. Additional preliminary examinations may be administered before the three required exams as the committee deems necessary. Performance on such an exam will determine areas where the student needs additional coursework or could result in the student's removal from the program.

**Comprehensive exam:** The student must prepare an extensive written answer to one question from each committee member that covers the concepts and factual material deemed essential for the student's program. Three weeks are allowed for completion of the exam, after which the student gives an oral presentation to the committee. This exam is taken within three years of initiation of graduate study in the program. The committee may require a student to repeat part or all of the comprehensive exam if the student's performance is deemed unsatisfactory.

**Proposal exam:** The student must present to the committee a written proposal on the dissertation research topic. Once the proposal is written, the student will complete a public oral presentation of the proposed research, followed by an oral examination by the committee.

**Final exam:** The student must complete a written Ph.D. dissertation prior to the final exam. Once written, the student is required to complete an oral defense of the dissertation, which will include both a public presentation and oral examination by the committee.

A student may be required to take additional courses following either the comprehensive or proposal exam, or may be removed from the program following failure of any of the required exams. Students are advanced to candidacy after successfully completing the comprehensive exam, proposal exam, and all coursework required by the guidance committee as summarized on the Coursework Approval Form.

» [Click to view course offerings](#)

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## Nursing (NURS) ▼

» <http://www.chhs.unh.edu/nursing/>

» [Click to view course offerings](#)

*This program is offered in Durham.*

*Professor:* Susan J. Fetzer

*Associate Professor:* Pamela P. DiNapoli, Gene E. Harkless, Joanne G. Samuels

*Assistant Professor:* Joyce Dolphin Capiello, Kerry Nolte, Rosemary Ann Taylor, Carolyn L. Tobin

*Clinical Associate Professor:* Donna Marie Pelletier, Dayle Boynton Sharp

*Clinical Assistant Professor:* Angela M. Braswell, Elizabeth J. Evans, Kimberly Gibbons, Debra A. Gottel, Eileen Hollis, Pamela Kallmerten, Michele Loos, Patricia Puccilli, Deborah L. Simonton

### **Degrees Offered: MS, DNP, Certificate**

The Department of Nursing offers the master of science degree in nursing under two programs: Graduate Program in Nursing and Direct Entry Master's in Nursing. We also offer the Post-Master's Family Nurse Practitioner Certificate Program, the Post-Master's Psychiatric Mental Health Nurse Practitioner Certificate Program, and the Online Doctor of Nursing Practice degree program.

### **Graduate Program in Nursing**

The graduate program in nursing offers three clinical practice tracks: clinical nurse leader (CNL<sup>SM</sup>), evidence-based nursing (EBN), and family nurse practitioner (FNP). Depending on track, programs are designed to be completed in three to four semesters of full-time study including one summer. Individual plans of study are available for those wishing to pursue part-time study. Although no guarantees are given, the department will try to accommodate student requests to the fullest extent possible. All tracks prepare nurses for evidence-based practice through critical inquiry using a variety of instructional modalities.

### **Admission Requirements**

All applicants who are not native English speakers are required to demonstrate a sufficient level of proficiency in the English language to meet the admission requirement of the Graduate School. Proficiency can be demonstrated by the receipt of a bachelor's or advanced degree from an accredited institution of higher education in the United States or from a university in another country where English is the primary language of instruction. All other non-native speakers must achieve a minimum score of 550 (paper-based), 213 (computer-based), or 80 (Internet-based) on the Test of English as Foreign Language (TOEFL). The Graduate Record Exam (GRE) and Miller Analogies Test (MAT) are not required. Individuals apply to the University of New Hampshire Graduate School.

**Graduate Program in Nursing Admission Requirements:** Registered nurses (RNs) who have successfully passed the NCLEX-RN, currently hold an unencumbered, active RN license in the United States, and who hold a baccalaureate degree in either nursing or another field can be considered for admission. Applicants are required to have a good academic record and completion of coursework in statistics and research.

RNs whose baccalaureate degree is in a discipline other than nursing may apply to the master of science degree in nursing (M.S.) program and will be considered for the track that is commensurate with their clinical experience based on faculty discretion. If a Master of Science Degree in Nursing has been conferred, students may apply to the Post-Master's Family Nurse Practitioner Certificate Program, if desired.

1. Unencumbered, active RN license in the United States
2. Baccalaureate degree in another field
3. Cumulative GPA of 3.0 or higher in associate and baccalaureate programs
4. Nursing experience preferred but not required
5. Submit sample of a scholarly paper (non-BSN applicants only)
6. Successful completion of undergraduate statistics
7. Successful completion of undergraduate research
8. Interview may be requested

Letters of recommendation should be substantial, with at least one academic reference from your nursing program and two references from current nursing professionals with graduate education background. Letters of recommendation from family or friends are not acceptable. The application deadline for fall admission is April 1st; the application deadline for spring admission is November 1st.

The Student Affairs Council in the Department of Nursing reviews completed applications September through May (rolling admission).

**Post-Master's Family Nurse Practitioner Certificate Program Admission Requirements:** In addition to the standard Graduate School requirements, the Nursing Department requires:

1. Applicant must hold unencumbered, active RN license in the United States and have a master's degree in nursing.
2. Applicant should submit two letters of reference. References should be substantial with one academic, if available, and one current professional with graduate education background. Letters of recommendation from family or friends are not acceptable.
3. A course description should be submitted for any course you request waived.  
The application deadline for fall admission is April 1st; the application deadline for spring admission is November 1st.

**Post-Master's Psychiatric Mental Health Nurse Practitioner Certificate Program Admission Requirements:** In addition to the standard Graduate School requirements, the Nursing Department requires:

1. Applicant must be master's prepared FNP with one year of clinical practice experience.
2. Applicant should submit two letters of reference. References should be substantial with one academic, if available, and one current professional with graduate education background. Letters of recommendation from family or friends are not acceptable.

The application deadline for fall admission is April 1st; the application deadline for spring admission is November 1st; and the application deadline for summer admission is February 1st.

**Direct Entry Master's in Nursing Admission Requirements:** A grade point average of 3.0 or better is suggested. Previous course work and professional experience is taken into consideration. Pre-requisite courses must be completed prior to beginning the program. at the time the application is reviewed. These include Human Anatomy & Physiology I and II with lab, Microbiology at the cellular level, and Statistics with a grade of B or better.

Knowledge of the basic processes and methods of research is necessary for students entering the DEMN program. While many undergraduate programs include a research methods course, not all programs do so. If a student does not have a background in research, he or she should enroll in an introductory research course or introductory nursing research textbooks may be used as self-study resources prior to matriculation in the DEMN program.

Letters of recommendation should be substantial with at least one academic reference and two references from current professionals with graduate education background. Letters of recommendation from family or friends are not acceptable. The completed application deadline is April 1st with staggered admissions.

**Doctor of Nursing Practice Admission Requirements:**

*Graduate School Application:* Applicants must complete the Graduate School application, which can be found at [www.gradschool.unh.edu](http://www.gradschool.unh.edu).

*Official Transcripts:* Applicants must submit one official transcript from each post-secondary institution attended. Applicants must hold a master's degree. A minimum 3.25 cumulative GPA for graduate work is preferred.

*Registered Nurse Licensure:* An unencumbered registered nurse license in the United States must be documented at the time of application.

*Letters of Recommendation:* Three letters of reference pertaining to academic ability, professional competency, and personal character are required.

*Curriculum Vitae or Resume:* Includes academic preparation, clinical experience and professional activities.

*Professional Statement:* The professional statement must include a written essay responding to each of the following:

- 1) How will a doctor of nursing practice degree from the University of New Hampshire help you attain your professional goals?
- 2) Describe your current advanced nursing role, or if you are pursuing a new specialty, explain what you are planning to do with your nursing career in your specialty after you complete the doctor of nursing practice.
- 3) In addition to the information contained in your resume, what strengths do you possess that would contribute to your success in the doctor of nursing practice program and in a community of interprofessional scholars?
- 4) Identify one scholarly inquiry from your practice you would like to explore as part of the DNP program (e.g., quality improvement initiative, evidence-based practice guidelines, new model of care, policy analysis).

*Interview:* After initial review of the application, applicants may be contacted for an interview.

The application deadline for August/fall (e-Term 1) admission is May 1st; the application deadline for January/spring (e-Term 3) admission is November 1st.

### **Accelerated Master's Program for Current UNH Senior Students**

#### *Graduate Program in Nursing Accelerated Master's:*

Qualified senior nursing students at the University of New Hampshire may be admitted to the Graduate School provided they have followed normal application procedures; they must have been admitted for the semester in which they wish to enroll in courses for graduate credit. A 3.2 cumulative grade-point average is normally required to be considered for the accelerated master's program. Such seniors are normally admitted prior to the start of their last undergraduate semester. Seniors who have been admitted under accelerated master's program may register for a maximum of three courses for up to 12 graduate credits.

When seniors admitted to the accelerated master's program have registered for graduate courses, they must maintain a grade-point average of 3.20, complete their undergraduate degree as planned, and pass graduate courses taken for credit with a grade of B- or better. If these conditions are not met, admission is withdrawn.

Students accepted under accelerated master's follow the clinical nurse leader or evidence-based nursing track. Undergraduate students accepted as graduate nursing students under accelerated master's guidelines, are admitted with the stipulation that their RN license must be obtained prior to beginning any clinical course. Stipulation is removed upon verification of the RN license provided to the department of nursing.

Apply to the accelerated master's program through the Graduate School by **April 1 of your junior year**, if you wish to begin summer after your junior year; by **July 1 after your junior year**, if you wish to begin fall of your senior year; by **November 1 of your senior year**, if you wish to begin spring of your senior year. Admission is provisional: must have RN license before registering for NURS 952 or NURS 955.

#### *Direct Entry Master's in Nursing Accelerated Master's:*

The Direct Entry Master's in Nursing Program provides an opportunity for accelerated admission to the graduate program for full time undergraduate UNH students who meet admission criteria. To be considered, undergraduate students must have completed all major requirements by the fall of their senior year. A grade point average of 3.4 or better is suggested. Previous course work is taken into consideration. Pre-requisite courses must be completed prior to beginning the program. These include Human Anatomy and Physiology I and II with labs, Microbiology at the cellular level, and statistics with a grade of B or better.

The curriculum begins in January and includes two summer sessions. Students graduate as an advanced generalist with a master of science (M.S.) degree in nursing and upon passing certification examination, as a clinical nurse leader (CNL). Direct entry courses taken during the spring of the senior year of undergraduate program will fulfill elective credits to complete B.A./B.S. degree requirements at UNH. This accelerated, full-time program is a five-semester, 69-credit course of study.

Students are admitted with the stipulation that they must submit final transcript with degree conferred prior to enrolling in fall semester courses and pass NCLEX-RN prior to completing the program. The stipulation is met once the final transcript and RN license are received. Students are eligible to take the NCLEX-RN after completing a total of 60 credits of accelerated study. Students take the CNL certification examination in their final semester.

Applicants are strongly encouraged to meet with the graduate program in nursing coordinator and their discipline-specific adviser early on in their undergraduate program to plan this course of study.

Students may apply during the second semester of their junior year in major by April 1 with staggered admissions until the class is



filled. Applications are reviewed through May. Review resumes in September.

## Degree Requirements

### Clinical Nurse Leader Track, 32 Credits

Students graduate as an advanced generalist as a clinical nurse leader (CNL) with a master of science degree. Graduates are eligible to sit for the clinical nurse leader national certification examination. The CNL is a role in the field of nursing designed to provide master's-prepared, point-of-care nurse leaders with the ability to manage and solve complex patient problems within a systems framework.

#### Fall

Abbreviation	Course Number	Title	Credits
NURS	908	Advanced Pathophysiology	3
NURS	953	Promoting Quality Management	3
NURS	963	Advanced Clinical Epidemiology	3

#### Spring

Abbreviation	Course Number	Title	Credits
NURS	925	Health Care Systems & Leadership	3
NURS	952	Clinical Nursing Leadership	2
NURS	952C	Clinical Nursing Leadership Clinical	6
NURS	968	Nursing Science and Evidence Based Practice	3

#### Summer

Abbreviation	Course Number	Title	Credits
NURS	901	Health Policy	3
NURS	958	Clinical Nurse Leader Capstone	6

### Evidence-Based Nursing Track, 30 Credits

The evidence-based nursing track focuses on developing advanced generalist nursing practice in a focused area of study, promoting interdisciplinary collaboration, fostering life-long learning, and preparing students for the leading edge of health care knowledge and delivery. Students strengthen knowledge and skills in clinical decision making, the application of nursing interventions, and their ability to critique and appropriately use evidence as a foundation for practice. In this graduate track, students study nursing as an applied discipline, advancing their knowledge of theoretical perspectives for clinical practice, with an emphasis on leadership; the cultural, social, and political context of health and illness; and quality improvement methodologies. Students are mentored in the enactment of leadership strategies to improve quality care in nursing practice through an intensive clinical practicum. In NURS 956, the capstone course for the evidence-based nursing track, the student will be required to complete a scholarly project under the direction of a faculty member in collaboration with agency preceptor. A formal presentation is required.

## Fall I

Abbreviation	Course Number	Title	Credits
NURS	908	Advanced Pathophysiology	3
NURS	944	Population Health Promotion and Risk Reduction	3
NURS	953	Promoting Quality Management	3
NURS	963	Advanced Clinical Epidemiology	3

## Spring

Abbreviation	Course Number	Title	Credits
NURS	901	Health Policy	3
NURS	925	Health Care Systems & Leadership	3
NURS	968	Nursing Science and Evidence Based Practice	3

## Fall II

Abbreviation	Course Number	Title	Credits
NURS	909	Advanced Health Assessment & Diagnostic Reasoning	3
NURS	955	Practicum in Advanced Nursing Practice	3
NURS	956	Capstone Project Seminar	3

## Family Nurse Practitioner Track, 45 Credits

This program prepares family nurse practitioners (FNPs) with specialized knowledge and clinical competency to practice as licensed independent practitioners across the life span. FNPs practice in ambulatory, acute, and long-term care as primary and/or specialty providers to individuals, families, and groups. The UNH program prepares these advanced practice registered nurses (APRNs) to diagnose and manage acute episodic and chronic illnesses across the life span and simple-to-complex continuum. Health promotion, disease prevention, teaching, counseling, and coaching are emphasized. The capstone course, NURS 939, is the final integrated clinical practicum. At the completion of the program, students are eligible to sit for national certification as a family nurse practitioner. Students are also prepared to enter doctoral study. Upon licensure, FNPs may practice autonomously as well as in collaboration with other health professionals.

## Fall I

Abbreviation	Course Number	Title	Credits
NURS	908	Advanced Pathophysiology	3
NURS	909	Advanced Health Assessment & Diagnostic Reasoning	3
NURS	963	Advanced Clinical Epidemiology	3

## Spring I

Abbreviation	Course Number	Title	Credits
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NURS	907	Advanced Pharmacology	3
NURS	935	Primary Care of Families I	3
NURS	936	Practicum in the Primary Care of Families I	3
NURS	968	Nursing Science and Evidence Based Practice	3

### Summer

Abbreviation	Course Number	Title	Credits
NURS	810	Families in Health and Illness	3
NURS	925	Health Care Systems & Leadership	3

### Fall II

Abbreviation	Course Number	Title	Credits
NURS	937	Primary Care of Families II	3
NURS	938	Practicum in the Primary Care of Families II	3
NURS	944	Population Health Promotion & Risk Reduction	3

### Spring II

Abbreviation	Course Number	Title	Credits
NURS	901	Health Policy	3
NURS	939	Seminar & Practicum in Primary Care of Families III	6

### Post-Master's Family Nurse Practitioner Certificate, 12-39 Credits

The Department of Nursing offers the Post-Master's Family Nurse Practitioner Certificate Program for students who completed a master of science degree in nursing. The certificate of advanced practice is designed for those individuals with a master's degree in nursing who wish to expand their practice into the role of a family nurse practitioner. The PM-FNP specialty area prepares nurses to provide comprehensive care that includes health promotion, maintenance and restoration for persons across the life span.

Depending on educational background and previous coursework in master's program, students accepted into the PM-FNP certificate program are required to take as few as three and as many as 12 courses or 12-39 credits. Successful completion of the required curriculum qualifies the RN to sit for the Family Nurse Practitioner Certification Examination. Students admitted to the PM-FNP certificate program must maintain continuous enrollment through program completion.

### Fall I

Abbreviation	Course Number	Title	Credits
NURS	908	Advanced Pathophysiology	3
NURS	909	Advanced Health Assessment & Diagnostic Reasoning	3
NURS	963	Advanced Clinical Epidemiology	3

## Spring I

Abbreviation	Course Number	Title	Credits
NURS	907	Advanced Pharmacology	3
NURS	935	Primary Care of Families I	3
NURS	936	Practicum in the Primary Care of Families I	3

## Summer

Abbreviation	Course Number	Title	Credits
NURS	810	Families in Health and Illness	3
NURS	925	Health Care Systems & Leadership	3

## Fall II

Abbreviation	Course Number	Title	Credits
NURS	937	Primary Care of Families II	3
NURS	938	Practicum in the Primary Care of Families II	3
NURS	944	Population Health Promotion & Risk Reduction	3

## Spring II

Abbreviation	Course Number	Title	Credits
NURS	939	Seminar & Practicum in Primary Care of Families III	6

### Post-Master's Psychiatric Mental Health Nurse Practitioner Certificate, 18 Credits

The purpose of this certificate program is to prepare the Family Nurse Practitioner (FNP) to be a Psychiatric Mental Health Nurse Practitioner (PMHNP) to increase access to mental health services in the region. With a background as a FNP, graduates can apply their newly learned skills in their primary care setting offering psychiatric mental health care. Training in both primary care and mental health will afford graduates the ability to manage all aspects of patient care including assessing and managing psychiatric and mental health care needs to all ages in a variety of settings.

This post-master's certificate program is designed for the family nurse practitioner with a master's degree and one year of clinical practice experience who is looking to effectively care for patients with complex psychiatric and physical health needs. The aim of the program is to prepare family nurse practitioners to add advanced psychiatric skills of therapy, prescribing psychiatric medications and clinical management needed to treat patients with mental illness and chronic medical comorbidities.

Courses will embrace a lifespan perspective in psychiatric mental health diagnostic reasoning, psychopharmacology, individual psychotherapies and management of complex psychiatric illnesses giving the student an evidence-based framework for comprehensive psychiatric-mental health care.

Students admitted to the PM-PMHNP certificate program must maintain continuous enrollment through program completion.

### PM-PMHNP Curriculum

Abbreviation	Course Number	Title	Credits

NURS	975	Psychotherapeutic Frameworks and Modalities	3
NURS	976	Psychiatric Mental Health Nurse Practitioner Practicum I	3
NURS	977	Neurobiology of Mental Disorders	3
NURS	978	Clinical Psychopharmacology	3
NURS	984	Differential Diagnosis of Mental Disorders	3
NURS	985	Psychiatric Mental Health Nurse Practitioner Practicum II	3

### Direct Entry Master's in Nursing, 69 Credits

The Direct Entry Master's in Nursing Program is an accelerated, full-time, five-semester, 69-credit course of study designed for non-RN students who hold a B.S. or B.A. or higher degree in a field other than nursing. Students are admitted with the stipulation that they must pass NCLEX-RN prior to completion of the program. The stipulation is met once the RN license is received. Students are eligible to take the NCLEX-RN after completing a total of 60 credits of accelerated study. The curriculum begins in January and includes two summer sessions. Students graduate as an advanced generalist with a master of science (MS) degree in nursing and upon passing certification examination, as a clinical nurse leader (CNL). Students take the CNL certification examination in their final semester. The CNL is a role in the field of nursing designed to provide master's-prepared, point-of-care nurse leaders with the ability to manage and solve complex patient problems within a systems framework. Students complete a clinical immersion experience of approximately 300 clinical hours. Students conclude their CNL master's preparation in a clinical nurse leader capstone, NURS 958, Clinical Nurse Leader Capstone.

### Spring I

Abbreviation	Course Number	Title	Credits
NURS	806	Clinical Inquiry	4
NURS	807	Pathophysiology and Pharmacology	4
NURS	813	Health Assessment and Clinical Nursing Theory	4
NURS	813C	Health Assessment and Clinical Nursing	2
NURS	813L	Health Assessment & Clinical Nursing Lab	0
NURS	825	Collaborative Care I: Care of Older Adult	3
Total			17

### Summer I

Abbreviation	Course Number	Title	Credits
NURS	811	Clinical Reasoning through Simulation	2
NURS	826	Caring for People with Severe & Persistent Mental Illness	2
NURS	826C	Caring for People with Severe & Persistent Mental Illness Clinical	2
NURS	830	Collaborative Care II: Childbearing & Childrearing Families	4
NURS	830C	Collaborative Care II: Childbearing & Childrearing Families Clinical	1
NURS	963	Advanced Clinical Epidemiology	3
Total			14

### Fall

Abbreviation	Course Number	Title	Credits
NURS	827	Collaborative Care III: Managing Acute & Complex Care of Individuals	4
NURS	827C	Collaborative Care III: Managing Acute & Complex Care of Individuals Clinical	2
NURS	828	Public Health Nursing	3
NURS	908	Advanced Pathophysiology	3
NURS	953	Promoting Quality Management	3
Total			15

## Spring II

Abbreviation	Course Number	Title	Credits
NURS	925	Health Care Systems & Leadership	3
NURS	952	Clinical Nursing Leadership	2
NURS	952C	Clinical Nursing Leadership Clinical	6
NURS	968	Nursing Science and Evidence Based Practice	3
Total			14

Eligible for NCLEX-RN

## Summer II

Abbreviation	Course Number	Title	Credits
NURS	901	Health Policy	3
NURS	958	Clinical Nurse Leader Capstone	6
Total			9

### Capstone Experience for All Master's and Post-Master's Nursing Tracks

For clinical nurse leader (CNL), the capstone course, NURS 958, Clinical Nurse Leader Capstone, requires students to complete 200 clinical hours plus a scholarly project, which synthesizes advanced practice knowledge and skills to address substantive nursing practice issues. For evidenced-based nursing (EBN), the capstone course, NURS 956, Capstone Project Seminar, requires students to complete a scholarly project.

CNL and FNP students may elect to complete Master's Thesis, NURS 899 (6 credits). EBN students may elect to complete a thesis and register for 6 credits of NURS 899 as the capstone in place of NURS 956. If a student opts to do a thesis, the student should discuss this option with a faculty adviser early in the program of study.

For family nurse practitioner (FNP and PM-FNP), the capstone course, NURS 939, Primary Care of Families III, is the final integrated clinical practicum.

For post-master's psychiatric mental health nurse practitioner (PM-PMHNP), the capstone course, NURS 985, Psychiatric Mental Health Nurse Practitioner Practicum II, is the final integrated clinical practicum.

### Doctor of Nursing Practice, 21-33 credits

The DNP program prepares nurses for the highest level of specialized nursing practice. DNP graduates are prepared to translate evidence into practice, improve systems of care, and measure health outcomes in diverse settings. Graduates of the DNP program

are prepared for culturally competent, evidence-based, system-based care, interprofessional collaboration and leadership. DNP graduates are distinguished by their abilities to:

**Affect practice**

Design and implement programs that improve health and healthcare delivery

Apply data management and informatics skills to evaluate programs, outcomes, and care systems

Influence health policy

Requirements for the Online Doctorate of Nursing Practice degree include: 8 core courses and 3 doctoral seminars completed at the level of B- or better; verification of 1,000 advanced practice clinical hours (includes up to 500 clinical hours earned in master's program); a publishable scholarly paper; successful defense of your DNP Project; and acceptance of the DNP Project Final Report by your DNP Team. All courses are offered 100% online. Students are required to attend two on-campus residencies: the first 2-day residency is early in the program to meet with peers and nursing faculty, and identify ideas for the DNP project; and the second residency is at the end of the program, for the oral defense and presentation of the DNP Project.- Cohorts are admitted twice a year, with starts in January and August.

The DNP program builds upon the experience of master's-prepared nurses. Registered nurses who have obtained an MS in nursing (NP, CRNA, CNMW, CNL, CNS, Nurse Executive, Health Systems Management, Health Informatics) or equivalent degree (MBA, MHA, MPH) are welcome to apply.

**DNP Curriculum**

Abbreviation	Course Number	Title	Credits
ADMN	912	Organizational Behavior	3
ADMN	952	Organizations, Leadership & Environments	3
MATH	837	Statistical Methods for Quality Improvement & Design	3
NURS	963	Advanced Clinical Epidemiology	3
NURS	964	Technology and Health Care	3
NURS	967	Evidence Synthesis	3
NURS	969	Health Policy and Finance	3
NURS	970*	Clinical Practicum for Advanced Practice Nurse	2
NURS	973	Health Care Quality	3
NURS	980	Doctoral Seminar I	3
NURS	981	Doctoral Seminar II	3
NURS	982	Doctoral Seminar III	3

\*NURS 970: Elective clinical practicum to provide the student with the opportunity to implement the role of the advanced practice nurse while under the supervision of other health care professionals in practice.

**Research and Scholarly Activities**

The graduate faculty of the university's nursing program believe learning is a creative process wherein students are active participants in their education, growth, and development. Faculty members are facilitators and mentors to students within a supportive scholarly environment. Students are prepared to be skilled, knowledgeable, and reflective leaders in health care who practice as nurse practitioners, clinical nurse leaders, or clinical educators.

The generation, dissemination, and application of evidenced-based nursing knowledge and practice are a central mission for the nursing department. Health care of vulnerable populations is the research focus among the faculty. Faculty engage in scholarly inquiry across diverse topics such as care-giving, acute symptom management, clinical decision-making, adolescent pregnancy, elder care-giving, and cultural diversity. Faculty publications, research, public policy initiatives, and other consultative/professional activities may be viewed at the department's website.

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## Nutritional Sciences (NUTR) ▼

» <http://mcbsgrad.unh.edu/>

» [Click to view course offerings](#)

*This program is offered in Durham.*

The Department of Molecular, Cellular, and Biomedical Sciences (MCBS) offers the master of science degree in nutritional science, and in conjunction with animal science faculty in the Department of Biological Sciences, a Ph.D. in animal and nutritional sciences. MCBS also offers a postgraduate internship in dietetics.

Information on these programs is described below and at the website listed above. Please view as well, the course listings for animal sciences (ANSC) and molecular, cellular, and biological sciences (MCBS).

### **Degree Programs Offered: M.S., Ph.D.**

The graduate program includes the M.S. degree in nutritional science and Ph.D. degree in animal and nutritional sciences. Areas of research specialization include human nutrition, mammalian physiology and pathology, nutritional biochemistry and metabolism, and reproduction and endocrinology. Research activities utilize human, animal, and cell culture systems to investigate nutrient metabolism and a molecular-level understanding of life processes and diseases.

### **Dietetic Internship Program**

In addition to degree-granting programs, the UNH Nutrition Program offers an American Dietetic Association-approved dietetic internship program. The emphasis of the internship is on "Health Promotion and Disease Prevention." In addition to more than 1,200 hours of practicum work, students earn 12 graduate-level credits as part of the internship. These credits may be applied to a master's degree if the candidate is accepted into the graduate program at UNH.

### **Admission Requirements**

Students applying for the M.S. or Ph.D. program will be expected to present recent scores (within five years) from the general test of the Graduate Record Examination (GRE) and possess a background in basic sciences appropriate for advanced study in the proposed area of specialization (for example, courses in biology, chemistry, organic chemistry, biochemistry, and physics). Although not required for candidacy in the Ph.D. program, an M.S. degree is suggested for most students. The student's committee may require certain undergraduate courses as part of the graduate program if additional competencies would be beneficial to the student. Students interested in preparing themselves for admittance to a dietetic internship while pursuing the graduate degree should contact Clinical Associate Professor Ruth Reilly in advance of applying at (603) 862-2164, [ruth.reilly@unh.edu](mailto:ruth.reilly@unh.edu) in order to determine the best course of action.

### **Degree Requirements**

#### **M.S. in Nutritional Sciences**

In this program students become actively engaged in a research project related to the nutritional sciences and gain a comprehensive understanding of nutritional science through their coursework. Emphasis is placed on active participation in original hypothesis-driven research of publishable quality. The program is for students who anticipate a professional career involving research or discovery, with a strong background in the basic biology and chemistry of nutrition. This degree may be most appropriate for students who expect to pursue further advanced study, e.g., additional graduate studies or professional school, after graduation.

The program of study must include a minimum of 30 graduate credits as well as completion of a 6 credit Master's Thesis based on a research project (NUTR 899). No more than 4 credits of investigations (NUTR 995) can apply toward the total credit count. Each candidate must present at least two seminars (exclusive of the thesis defense) and must serve as a teaching assistant for at least one semester. A thesis committee will be appointed early in the program and will consist of at least three members of the graduate faculty; one of these will be the primary mentor. Students will design a program of study in close consultation with their thesis committee, including their academic courses and scientific research project. Candidates will be required to pass an oral examination based on their graduate courses and completed thesis. Skills in communicating scientific information will be fostered by presenting one seminar during each year of enrollment. This requirement could include the master's thesis defense seminar.



## Ph.D. in Animal and Nutritional Sciences

Coursework for the Ph.D. in animal and nutritional science is determined by the student's committee.

Students must complete a dissertation based on original hypothesis-driven research of publishable quality. A public presentation of the dissertation research findings will be followed by a final examination, which will be primarily an oral defense of the dissertation. The candidate will be required to serve as a teaching assistant for a minimum of two semesters or to teach a course for one semester. Aptitude in scientific communication will be developed by presentation of one seminar during each year of enrollment, not including the dissertation defense.

For a more detailed description and list of courses offered, please visit [www.mcbsgrad.unh.edu](http://www.mcbsgrad.unh.edu).

## Courses

For a complete listing of courses, check **animal science** and **nutritional science**. All graduate students are required to take **MCBS 997, Seminar**.

» [Click to view course offerings](#)

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## Occupational Therapy (OT) ▼

» <http://www.chhs.unh.edu/ot/index>

» [Click to view course offerings](#)

*This program is offered in Durham.*

**Degree Offered: M.S.**

## Occupational therapy

The Department of Occupational Therapy offers the master of science degree in occupational therapy and a graduate certificate in assistive technology.

### Admission Requirements

Occupational therapy enables people to participate successfully in their choice of daily life activities including leisure, play, work, self-care, and home management. The master's degree prepares students for entry-level occupational therapy practice. Students gain the knowledge and skills to work with people of all ages to enable their participation within their natural environments.

The Occupational Therapy Program at the University of New Hampshire is accredited by the Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association (AOTA), located at 4720 Montgomery Lane, Suite 200 Bethesda, MD 20824-3449. ACOTE's telephone number is (301) 652-AOTA and its website is [www.acoteonline.org](http://www.acoteonline.org).

Graduates of the program are eligible to sit for the Certification Examination for the Occupational Therapist, administered by the National Board for Certification in Occupational Therapy, Inc. (NBCOT). After successful completion of this exam, the individual will be an occupational therapist, registered (OTR). In addition, most states require licensure in order to practice. State licenses are based on the successful results of the NBCOT Certification Examination. A felony conviction may affect a graduate's ability to sit for the NBCOT Certification Examination or attain state licensure.

## **Professional Master's Program in Occupational Therapy**

(This admissions process applies to candidates with completed undergraduate degree(s) and UNH seniors who are not in the B.S./M.S. Occupational Science/Occupational Therapy program.)

Applicants need a minimum overall grade point of 3.0 in undergraduate coursework and the following prerequisite courses:

Human anatomy and physiology (two courses with labs)

Neuroanatomy (with a lab), abnormal psychology, human development (two courses, one in child development and one in adult development), statistics.

Applicants must complete and submit the [Prerequisite Verification Form](#). Priority for admission will be given to applicants with all prerequisite courses completed. Prerequisites must be completed prior to entry into the professional master's program.

Three letters of reference must accompany the application. Two of these must address the applicant's educational abilities/performance. One letter must address the applicant's interpersonal/communication skills as observed in a volunteer or paid-employment setting.

Applications are accepted beginning in the fall of the year before a candidate will begin the program. Applications close on **January 15th**. However, candidates are encouraged to submit their applications to the Graduate School by the end of December to ensure that all applications are complete in time for review. Once submitted, applicants should periodically review their application status on the Graduate School website and contact the Graduate School about missing items. Admission to the occupational therapy program is a competitive process and not all qualified students are admitted.

### **UNH B.S./M.S. Students (Advanced-standing) Applying to the Entry-Level Professional Master's Degree Program**

Students who are completing a baccalaureate degree in occupational science at UNH use this application process to enter the entry-level master's in occupational therapy degree program. These students take the first year of the two-and-a-half year (five semesters) entry-level master's program as part of their senior year baccalaureate in occupational science degree requirements.

Students in the combined B.S./M.S. program must apply for admission to the Graduate School to enter into the professional master's degree program, meet Graduate School requirements for entry into the graduate portion of their program, and be officially admitted by the Graduate School. This process occurs in the spring semester of the senior year. The application period opens on **February 1st** and closes on **March 31st**. An overall minimum grade point of 3.0 and a grade of B- or better in all senior-level OT coursework are required for admission.

Three letters of references must accompany the application for B.S./M.S. students: one from the chair of the occupational therapy program; one from the student's undergraduate academic adviser; and one that addresses the student's interpersonal and communication skills, work ethic, and integrity as observed in a volunteer or work setting.

B.S./M.S. students planning to also complete a graduate certificate may apply into the accelerated cohort. Accelerated admission enables B.S./M.S. students to take graduate certificate courses at the 800 level in the J term and spring semester of their senior year in the B.S. program (see detailed instructions below).

**UNH B.S./M.S. Students Applying to the Professional Master's Degree Program for Early Admission (Accelerated Master's)** ALL students who are completing a baccalaureate degree in occupational science at UNH complete the application process for the professional master's degree. These students take the first year of the two-and-a-half year (five semesters) professional master's program as part of their senior year B.S. in occupational science degree requirements. Students in the combined B.S./M.S. program must apply for admission to the Graduate School to enter into the professional master's degree program, meet Graduate School requirements for entry into the graduate portion of their program, and be officially admitted by the Graduate School. This process occurs in the spring semester of the senior year.

Students applying into the accelerated cohort are those students in the B.S./M.S. program who plan to complete graduate certificates, such as the graduate Certificate in Assistive Technology. Accelerated admission enables students to take graduate certificate courses at the 800-level in the J term and spring semester of their senior year in the B.S. program.

Applications for admission as an accelerated master's candidate must be completed by **November 1st**. An overall minimum grade point of **3.2** and a grade of B- or better in all senior-level OT coursework is required for admission.

Three letters of references must accompany the application for B.S./M.S. students: one from the chair of the occupational therapy program; one from the student's undergraduate academic adviser; and one that addresses the student's interpersonal and communication skills, work ethic, and integrity as observed in a volunteer or work setting.

Students in the accelerated master's professional program can **ONLY** register in the graduate certificate-related courses at the 800 level; all other senior OT courses must be taken at the 700 level.

## **Degree Requirements**

### **Professional Occupational Therapy Program M.S. Requirements for Advanced-Standing B.S./M.S. Students**

The program is two-and-a-half years (five semesters) of coursework, including fieldwork experiences. Students enroll in a 1-credit January term (J term) Level 1 fieldwork course in between the first and second semesters of the first year of the professional program. There are no summer course requirements.

Advanced-standing students complete the first year of the professional program as part of their B.S. degree in occupational science.

Course requirements are listed below by year:

First Year: OT 710, OT 741, OT 751, OT 752, OT 752L, OT 792 (J term), OT 771 with OT 771L or OT 730 with OT 730L, OT 785, OT 760 with OT 760L, OT 745.

Second Year: OT 862 with OT 862L, OT 863 with OT 863L, OT 871 with OT 871L or OT 830 with OT 830L (whichever was not taken in year one), OT 854, OT 855, OT 856. The spring semester of the second year is an extended semester of fieldwork. Students' Level II fieldwork is completed the third week of June.

Third Year: OT 865, OT 875, OT 886. Students also take at least 3 credits of graduate-level elective course(s).

Course requirements for OT 865, Occupational Therapy Practice and Professional Reasoning, include a capstone experience in which students synthesize knowledge from academic coursework and fieldwork experiences to develop an innovative occupational therapy program that addresses the needs of a specific population or program.

Advanced-standing students are required to have 44 graduate credits, which includes 16 to 18 credits of fieldwork, in addition to 36 credits, which includes 1 to 3 credits of fieldwork, taken as part of the occupational science degree.

### **Professional OT Program MS Requirements for Entering Graduate Students**

The program is two-and-a-half years (five semesters) of coursework, including fieldwork experiences. Students enroll in a 1-credit January term (J term) Level 1 fieldwork course in between the first and second semesters of the first year of the professional program. There are no summer course requirements.

Required OT courses include:

First Year: OT 810, OT 841, OT 851, OT 852, OT 852L, OT 892 (J term), OT 871 with OT 871/L or OT 830 with OT 830L, OT 885, OT 860 with OT 860L, OT 845.

Second Year: OT 862 with OT 862L, OT 863 with OT 863L, OT 846, OT 871 with OT 871/L or OT 830 with OT 830L (whichever was not taken in year one), OT 854, OT 855, OT 856.

Third Year: OT 865, OT 875, OT 886. Students also take 3 credits of graduate-level elective course(s), which are typically taken in this third year, and final semester.

The professional master's degree track requires the completion of 74 graduate-level credits, which includes 19 credits of fieldwork.

Course requirements for OT 865, Occupational Therapy Practice and Professional Reasoning, include a capstone experience in which students synthesize knowledge from academic coursework and fieldwork experiences to develop an innovative occupational therapy program that addresses the needs of a specific population or program.

### **Academic Standards and Policies**

In order to be awarded an M.S. in occupational therapy from UNH, students must earn a minimum of B- in all required occupational therapy courses and receive a passing criterion score on the American Occupational Therapy Association Fieldwork Evaluation for the Occupational Therapist in both 12-week Level II fieldwork experiences. Students must maintain an overall GPA of 3.0 and meet professional behavioral standards, which are explained in detail in the *OT Department Policy and Procedure Manual*.

Because curriculum review and revision is undertaken annually, occupational therapy faculty work closely with students during academic advising sessions and share information about any policy and requirement changes during registration periods as well as throughout the academic year. Students are expected to take an active role in verifying expectations and requirements and should check with their departmental advisers each September for updated policies and requirements. Program requirements and policies for retention in the major are posted annually in the *OT Department Policy and Procedure Manual*, which is available on the OT department's organization site on Blackboard; students are provided a hard copy or a digital copy of the manual when they enter the program.

Students will participate in a variety of off-campus and fieldwork experiences throughout the course of study. Students are responsible for transportation to fieldwork sites and other off-campus learning experiences and are covered with basic personal liability insurance through UNH for all practical components of the curriculum. Students are responsible for meeting the health and criminal record clearances established by their fieldwork sites and off-campus learning experiences. Proof of immunization such as poliomyelitis, rubella, H1N1, and hepatitis B may also be required. For Level II fieldwork, health insurance and a physical examination, including a tuberculin test, are required. All fieldwork experiences are scheduled in centers approved by the Department of Occupational Therapy and with whom active Memoranda of Understanding with UNH exist.

After successfully completing all Level II fieldwork requirements and academic work, students are awarded a master of science degree in occupational therapy. They are then eligible to sit for the National Board Certification Examination in Occupational

Therapy (NBCOT). Consistent with NBCOT expectations, students must sit for the certification examination within two years of completion of coursework and fieldwork. A felony conviction may affect a graduate's ability to sit for the NBCOT certification examination and/or obtain licensure.

**Curriculum and schedule:** Most classes will be scheduled during weekdays during the day and into early evening. Some courses require experiential, off-campus learning: Level I and II fieldwork experiences are two- and twelve-weeks, respectively. These full-time experiences are planned collaboratively with the fieldwork coordinators.

### **Graduate Certificate in Assistive Technology**

The graduate certificate in assistive technology is a 15-credit program, available to students who have completed a bachelor's degree or higher, designed to provide practical, hands-on training in the application of AT for individuals of all ages who experience physical, sensory, or cognitive impairments that affect participation at home, school, or work. Coursework includes basic principles of assessment, selection, fabrication, and training in the use of AT. Graduates of the program are prepared to provide a wide variety of AT services including: conducting AT evaluations and consultations; designing, fabricating, modifying, customizing, and maintaining devices; and AT service coordination. Graduates of the program are prepared to work in collaborative teams and to become leaders in assistive technology. This certificate program is appropriate for individuals pursuing or engaged in the following careers: occupational, physical, speech, or recreation therapy; rehabilitation counseling; engineering; education; special education; or nursing. A weekend format accommodates those who are employed full-time.

### **Certificate Requirements**

OT 822, Introduction to Assistive Technology (4 credits)

**Or**

\*OT 830, Enhancing Occupational Performance through Assistive Technology (3credits) with co-requisite Lab, OT 830 (2 credits)

**And**

OT 826, Assistive Technology and Sensory, Communicative, and Cognitive Disabilities (4 credits)

**And one of:**

- OT 824, Assistive Technology and Physical Disabilities (4 credits)
- COMM 914 02, Augmentative and Alternative Communication (4 credits)
- COMM 920 02, AAC Seminar (4 credits)
- EDUC 820, Introduction to Computer Applications for Education (4 credits)

**And one of the following electives:**

Any course not selected above, or any course below

- EDUC 850, Introduction to Exceptionality (4 credits)
- \*OT 852 with 852 L, Human Movement and Environmental Effects on Everyday Occupations (4 credits)
- OT 895, Readings and Research in Occupational Therapy (4 credits – Variable credits)
- SW 812, Social Work and Developmental Disabilities (3 credits)
- SW 992, Special Projects and Independent Study (3 credits)
- COMM 895, Special Topics (3 credits)
- EDUC 851C, Educating Exceptional Learners: Related Services (4 credits)
- EDUC 854, Contemporary Issues of Developmental Disabilities (4 credits)

**Note:**

\*Courses restricted to OT majors only.

### **Required and Elective Courses**

#### **Elective Courses**

<b>Abbreviation</b>	<b>Course Number</b>	<b>Title</b>	<b>Credits</b>
OT	887	Upper Extremity Rehabilitation and Splinting	4

OT	890	Occupational Therapy and Sensory Integration	4
OT	891	Ergonomics and Occupational Therapy	4
OT	822	Introduction to Assistive Technology	4
OT	824	Assistive Technology and Physical Disabilities	4
OT	826	Assistive Technology and Sensory, Communicative, and Cognitive Disabilities	4
OT	893	Special Topics: AMPS - Assessment of Motor and Process Skills Training	4
OT	895	Readings and Research in Occupational Therapy	1 TO 6

Post-professional OT Program is closed to new admissions.

### Required Professional OT Program Courses

Abbreviation	Course Number	Title	Credits
OT	841	Human Occupation	4
OT	851	Mind Body Systems/Neurologically-based Function and Dysfunction	3
OT	852	Human Movement and Environmental Effects on Everyday Occupations	3
OT	852L	Human Movement and Environmental Effects on Everyday Occupations Lab	1
OT	810	Occupational Therapy Practice and Professional Roles	3
OT	885	Research Methods and Application to Practice	3
OT	845	Administration and Management for Occupational Therapy Practice	3
OT	860	Occupational Therapy Psychosocial Evaluation and Intervention	3
OT	860L	Occupational Therapy Psychosocial Evaluation and Intervention Lab	1
OT	871	Enabling Participation in Community Groups	3
OT	871L	Enabling Participation in Community Groups Lab	2
OT	830	Enhancing Occupational Performance Through Assistive Technology	3
OT	830L	Enhancing Occupational Performance Through Assistive Technology Lab	2
OT	892-J Term	Level 1 Fieldwork	1
OT	862	Occupational Therapy Evaluation and Intervention for Children	3
OT	862L	Occupational Therapy Evaluation and Intervention for Children Lab	1
OT	863	Occupational Therapy Evaluation and Intervention for Adults	3
OT	863L	Occupational Therapy Evaluation and Intervention for Adults Lab	1
OT	846	Transitions: Student to Professional	2
OT	854	Level II Fieldwork, I	8
OT	855	Level II Fieldwork, Online Discussion	1
OT	856	Level II Fieldwork, II	8
OT	865	Occupational Therapy Practice and Professional Reasoning	3
OT	875	Leadership in Occupational Therapy Systems of Practice	3
OT	886	Engagement in Research	3

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## Ocean Engineering (OE) ▼

» <http://www.unh.edu/oe>

» [Click to view course offerings](#)

*This program is offered in Durham.*

### **Degrees Offered: M.S., Ph.D., Certificate in Ocean Mapping**

Ocean engineering (OE) offers programs leading to the master of science and doctor of philosophy degree in ocean engineering. Programs in OE are by definition interdisciplinary and require students to interact with the ocean science community, as well as the traditional engineering disciplines. Students are exposed to the broad-based issues of working engineering problems in the ocean environment, as well as discipline specifics. In these programs they will be trained to develop responsible solutions to problems that will lead to sustainable activity and life in the ocean.

A master of science in ocean engineering with an option in ocean mapping is available. There is a more structured path through this program, which is approved by the International Hydrographic Organization (IHO) and incorporates all aspects of hydrography as required by the IHO. Focus is on the engineering aspects of hydrography. The general purpose of these programs is to prepare engineering students for professional careers in ocean-related fields.

Additionally, a graduate certificate in ocean mapping is offered.

### **Admission Requirements**

Applicants should have completed a baccalaureate degree in either chemical, civil, electrical, or mechanical engineering, or have an equivalent background.

### **M.S. Degree Requirements**

Each student is required to take one oceanography course: ESCI 858, Introductory Physical Oceanography; ESCI 859, Geological Oceanography; or ZOO 850, Biological Oceanography; as well as OE 990 & 991, Ocean Engineering Seminar I & II.

In addition, each student must select three of the following core courses: OE 810, Ocean Measurements Laboratory; OE 854, Ocean Waves and Tides; OE 871, Geodesy and Positioning for Ocean Mapping; OE 874, Fundamentals of Ocean Mapping I and OE 875, Fundamentals of Ocean Mapping II; or OE 865 Underwater Acoustics. Students are also required to take a minimum of 12 credits of additional coursework and complete a master's thesis for 6 credits (OE 899).

### **Ocean Mapping Option**

This option is offered in conjunction with the Joint Hydrographic Center/Center for Coastal and Ocean Mapping. Each student is required to take these core courses: OE 810, Ocean Measurements Lab; OE 865, Underwater Acoustics; OE 871, Geodesy and Positioning for Ocean Mapping; OE 874, Fundamentals of Ocean Mapping I; OE 875, Fundamentals of Ocean Mapping II; OE 972, Hydrographic Field Course; OE 990, Ocean Seminars I; and OE 991, Ocean Seminars II.

In addition, each student must select at least four additional approved credits, including one course from these electives: OE 854, Waves and Tides; OE 857, Coastal Engineering; OE 895, Time Series Analysis; or ESCI 858, Physical Oceanography.

Students are also required to complete a master's thesis for 6 credits (OE 899).

Students may fulfill the Category A (professional) International Federation of Surveyors/International Hydrographic Organization/International Cartographic Association (FIG/IHO) Standards of Competence for Hydrographic Surveyors by completing, in addition to the core courses, some additional specialized requirements. For more information, please visit the [Center for Coastal and Ocean Mapping website](#).

## Ph.D. Requirements

Students admitted to this Ph.D. program come from traditional engineering degree programs including physics, mathematics, computer science, and in some cases, marine science programs. Those entering the Ph.D. program with a B.S. degree from an engineering program should be prepared to begin the Ph.D. program directly. Those coming from a B.S. in physics, mathematics, or computer science will have their transcripts more carefully reviewed on an individual basis, as additional courses may be required.

A student in the ocean engineering Ph.D. program will be expected to take a minimum of 12 courses (exclusive of dissertation research) beyond those required for a B.S. degree.

## Required Courses

**One course in oceanography or ocean science:** ESCI/ZOOL 850, Biological Oceanography; ESCI 858, Introductory Physical Oceanography; or ESCI 859, Geological Oceanography

**Three core courses in ocean engineering:** OE 810, Ocean Measurements Lab; OE 854, Ocean Waves and Tides; OE 857, Coastal Engineering and Processes; OE 865, Underwater Acoustics; OE 871, Geodesy and Positioning for Ocean Mapping; OE 874, Fundamentals of Ocean Mapping I; or OE 875, Fundamentals of Ocean Mapping II.

**Two courses in advanced OE topics (two at 900 level):** OE 937, Advanced Hydrodynamics; OE 956, Dynamics of Moored Systems; OE 965, Advanced Underwater Acoustics; OE 972, Hydrographic Field Course; OE 973, Seafloor Characterization; OE 995, Coastal Sediment Transport

**Two courses from the following (one at the 800 level; one at the 900 level):** MATH 845, MATH 846, Foundations of Applied Mathematics; MATH 853, Introduction to Numerical Methods; MATH 856, Principles of Statistical Inference; MATH 888, Complex Analysis; MATH 896, Mathematics for Mapping; MATH 931, MATH 932, Mathematical Physics; ME 886, Introduction to Finite Element Analysis; or ME 986 Advanced Finite Element Analysis

**Four electives (two at 800 level; two at 900 level):** ME 807, Analytical Fluid Dynamics; ME 886, Introduction to Finite Element Analysis; ME 906, Convection Heat Transfer; ME 909, Viscous Flow; ME 910, Turbulence; ME 827, Advanced Mechanics of Solids; ME 824, Vibration Theory & Applications; ME 877, Computer Aided Engineering; ME 927, Theory of Plasticity; CIE 860, Foundation Design I; CIE 861, Foundation Design II; CIE 862, Introduction to Geotechnical Earthquake Engineering; CIE 866, Geo-Environmental Engineering; CIE 946, Advanced Bioenvironmental Engineering Design; ECE 814, Introduction to Digital Signal Processing; ECE 857, Fundamentals of Communication; ECE 860, Introduction to Fiber Optics; ECE 939, Statistical Communication Theory; ECE 940, Information Theory; ECE 941, Digital Signal Processing

**The general progress of a student through this program is expected to follow the time frame listed:**

**Year 1:** Coursework, qualifier at the end of the year

**Year 2:** More coursework, thesis proposal presentation at the end of the year

**Year 3:** Research

**Year 4:** Research/thesis defense

**Year 5:** Research/thesis defense

The course selection and sequencing will be established in consultation with the student's guidance committee. There will be a qualifying examination on the student's specific area of interest after the first year, but no later than the end of the second year. The goal of this exam is to test the breadth of a student's knowledge in topic areas essential to ocean engineering and the student's area of interest. For each student there will be a list of must-know topics; e.g., physical oceanography, underwater acoustics, fluid dynamics, mathematics. A formal Ph.D. proposal will then be written and presented in a seminar, which constitutes an oral exam. After successful completion, the student will be advanced to candidacy and work on the dissertation. The dissertation will be defended in a public forum when completed.

## Certificate in Ocean Mapping

The program goal is to provide advanced graduate training to working professionals in the area of ocean mapping. These professionals will come from a variety of backgrounds ranging from earth science, geology, and biology to engineering. The graduate certificate in ocean mapping is awarded for completion of the core courses and associated practicum. The graduate certificate program fulfills the Category A International Federation of Surveyors/International Hydrographic Organization/International Cartographic Association (FIG/IHO/ICA) Standards of Competence for Hydrographic Surveyors.

For more information, please visit the [ocean mapping website](#) or contact the Center for Coastal and Ocean Mapping/Joint Hydrographic Center at [info@ccom.unh.edu](mailto:info@ccom.unh.edu).

## Applying

Please visit the [Graduate School website](#) for instructions about applying to the certificate program.

### **Certificate Requirements**

ESCI/OE 871, Geodesy and Positioning for Ocean Mapping (4 cr.)

ESCI 872, Research Tools for Ocean Mapping (3 cr.)

MATH 896, Math for Mapping (3 cr.)

ESCI/OE 874, Fundamentals of Ocean Mapping I (4 cr.)

ESCI/OE 875, Fundamentals of Ocean Mapping II (4 cr.)

ESCI/OE 972, Hydrographic Field Course (4 cr.)

OE 677, Seamanship & Marine Weather (P/F)

ESCI 896, Coastal Remote Sensing (3 cr.) for the optional Remote Sensing specialty

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## Oceanography (OCE) ▼

» <http://www.unh.edu/oce/>

» [Click to view course offerings](#)

*This program is offered in Durham.*

### **Degrees Offered: M.S., Ph.D.**

The Department of Earth Sciences (ESCI) in the College of Engineering and Physical Sciences (CEPS) offers M.S. and Ph.D. degrees in oceanography that include the study of biological oceanography, chemical oceanography, marine geology and geophysics, and physical oceanography. The OCE program also supports focused research in coastal and estuarine processes.

### **Admission Requirements**

Applicants should have completed an undergraduate major related to one of the oceanography disciplines, including biology, chemistry, engineering, geology, physics, or mathematics, or an appropriate array of science and engineering courses within their major field. Applicants are expected to have completed one year each of calculus and chemistry and two semesters of physics and/or biology. It is not necessary to have had previous coursework in oceanography. Applicants must submit scores (within the last 5 years) from the general test of the Graduate Record Examination (GRE).

### **M.S. Degree Requirements**

Students must complete a minimum of 30 credits for the thesis option or 34 credits for the non-thesis option. This includes at least two of the four core courses in biological (ESCI 850), chemical (ESCI 852), geological (ESCI 859), and physical oceanography (ESCI 858), as well as seminar (ESCI 997) and proposal development (ESCI 998). In addition to the course credits, students in the thesis option will complete a 6-credit thesis (OCE 899) that is acceptable to the thesis-examining committee, and must pass a thesis defense. Students in the non-thesis option will complete 32 course credits and a 2-credit directed research project (ESCI 898 or OCE 898).

### **Ph.D. Requirements**

Students plan a program of study in conjunction with a faculty guidance committee (FGC). Students entering the program without a master's degree are expected to complete a minimum of 36 credit hours. Students with an M.S. degree in oceanography or related field in physical science from UNH or another university should first demonstrate (through accredited transcript or the qualifying examination) acceptable mastery in the basic core areas. Those deficient in any discipline will be required to complete the respective course.

All students must complete at least one course from each of the following categories: natural sciences, methods, ethics/policy/law, and seminar. Please see below for a list of courses that meet these specifications. Additional credit hours are determined by the FGC (typically 15 credit hours). Foreign language requirement is determined by the FGC. Students must complete a Coursework Approval Form, which summarizes all courses to be taken, and obtain signatures from their adviser, committee members, and the OCE program coordinator once the coursework is completed.

Students wishing to be admitted to doctoral candidacy will undergo a qualifying examination by the guidance committee designed to test the student's in-depth knowledge in their major field and their ability to conduct independent and original research in



oceanography. Qualifying students will present to the guidance committee a research proposal in which the soundness, originality, and feasibility of the investigation are clearly stated, and which when approved based on a proposal examination by the committee, will form the basis for the doctoral dissertation.

Students are advanced to candidacy after successfully completing the comprehensive exam, proposal exam, and all coursework required by the guidance committee. Students must complete a dissertation, present their results at a public seminar, and pass an oral examination by the thesis committee.

Although not a strict requirement, all graduate students are encouraged to obtain teaching experience, preferably as a teaching assistant.

All students are required to spend time in the field, even if their research project and interests are primarily based on analytical research, modeling studies, or laboratory experiments. The field requirement could include extended time at sea onboard one of the UNH, UNOLS, NOAA, or similar oceanographic research vessels, or include field experiments at locations in New Hampshire, the U.S., or around the globe, and includes possible nearshore and estuarine studies, Antarctic expeditions, or other land-based studies related to oceanography. Successful completion of the field requirement will be determined by the guidance committee.

### Research and Facilities

The oceanography graduate program within the Department of Earth Sciences and the School of Marine Science and Ocean Engineering (SMSOE) is enhanced by the ocean engineering and zoology graduate programs, and by other departments and institutes at UNH, including the civil and mechanical engineering and zoology departments; the Institute for the Study of Earth, Oceans, and Space (EOS); the Center for Coastal and Ocean Mapping (CCOM); and the Ocean Processes Laboratory (OPAL). Other related programs include the N.H. Sea Grant Program, the Center for Collaborative Science, and the Center of Excellence in Coastal Ocean Observation and Analysis (COOA). Oceanographic laboratories at UNH include the Shoals Marine Laboratory (SML) on Appledore Island, the Coastal Marine Laboratory (CML) in Newcastle, the Jackson Estuarine Laboratory (JEL) at Adams Point on the Great Bay, and the Chase Ocean Engineering Laboratory (COEL) on the main UNH campus. Additional laboratories for the oceanography faculty are located on campus in James, Morse, Rudman, and Spaulding Halls. The SMSOE operates a marine support facility and two UNH research vessels moored in Portsmouth Harbor at the UNH pier, the R/V Gulf Challenger and the R/V Coastal Surveyor, as well as a number of small boats. The Marine Program also supports the UNH Diving Program and oversees a shared-use Instrumentation Pool for student and faculty use.

### Natural Sciences

ESCI 850	Biological Oceanography	4 cr.
ESCI 852	Chemical Oceanography	3 cr.
ESCI 858	Intro to Physical Oceanography	3 cr.
ESCI 859	Geological Oceanography	4 cr.

### Methods

CHEM 862	Intro. to Ocean Remote Sensing	3 cr.
EOS 895	Model & Anal. Biogeochem cycles	4 cr.
ESCI 801	Quantitative Methods for Earth Sciences	4 cr.
ESCI 870	Fundamentals of Ocean Mapping	4 cr.
ESCI 871	Geodesy & Positioning Ocean Map	4 cr.
ESCI 972	Hydrographic Field Course	4 cr.
ESCI 896	Time Series Analysis	4 cr.
IAM 940	Asymptotic & Perturbation Meth.	3 cr.
ME 807	Analytical Fluid Dynamics	3 cr.
MATH 835	Statistical Methods for Research	3 cr.
MATH 839	Applied Regression Analysis	3 cr.
MATH 845	Foundations of Applied Math	3 cr.
MATH 853	Intro. to Numerical Methods	3 cr.
OE 810	Ocean Measurements Lab	4 cr.

### Ethics, Policy, and Law

ECON 908	Environ. Econ: Theory & Policy	3 cr.
NR 801	Ecological Sustainability & Values	4 cr.
NR 818	Law Natural Resources & Environ.	3 cr.
NR 820	Intern. Environ. Politic & Policies	4 cr.
NR 824	Resolving Environmental Conflicts	4 cr.
NR 902	Ecological Ethics and Values	4 cr.

NR 915	Coastal Challenges Science Policy	2 cr.
NR 916	Link Decision & Coastal Ecosys. Sci	4 cr.
GRAD 930	Ethics in Research and Scholarship	Var. cr.
POLT 880	Intern. Environ. Politics	3 cr.

#### Seminar and Proposal Development

OE 990	Ocean Seminars I	1 cr.
OE 991	Ocean Seminars II	1 cr.
ESCI 997	Seminar	1 cr.
ESCI 998	Proposal Development	1 cr.

#### *Other Relevant Graduate Courses*

CIE 847	Intro. to Mar. Pollution & Control	3 cr.
EOS 824	Intro. to Ocean Remote Sensing	3 cr.
EOS 831	Sys. Approach to Bio. Ocean Sci.	3 cr.
EOS 896	Bio-Optics & Primary Production	4 cr.
EOS 896	Dyn. of Global Marine Ecosystems	3 cr.
EOS 844	Biogeochemistry	4 cr.
EOS 895	Climate & Fisheries	4 cr.
ESCI 834	Geophysics	3 cr.
ESCI 841	Geochemistry	4 cr.
ESCI 845	Isotope Geochemistry	4 cr.
ESCI 847	Aqueous Geochemistry	4 cr.
ESCI 854	Sedimentology	4 cr.
ESCI 856	Geotectonics	3 cr.
ESCI 865	Paleoclimatology	3 cr.
ESCI 895	Paleoceanography	3 cr.
ESCI 896	Nearshore Processes	4 cr.
ESCI 952	Adv. Chemical Oceanography	4 cr.
ESCI 994	Advanced Ocean Seminar	1 cr.
ESCI 995	Geophysical Fluid Dynamics	3 cr.
ME 807	Analytical Fluid Dynamics	4 cr.
ME 812	Waves in Fluid	3 cr.
ME 909	Viscous Flow	3 cr.
ME 995	Turbulence	3 cr.
MICR 807	Marine Microbiology	5 cr.
MICR 817	Microbial Physiology	5 cr.
OE 844	Environment Acoustics I	4 cr.
OE 853	Ocean Hydrodynamics	3 cr.
OE 854	Ocean Waves & Tides I	4 cr.
OE 885	Environment Acoustics II	4 cr.
OE 895	Underwater Acoustics	4 cr.
OE 954	Ocean Waves & Tides II	4 cr.
OE 995	Coastal Sediment Transport	3 cr.
ZOOL 810	Ichthyology	4 cr.
ZOOL 811	Zooplankton Ecology	4 cr.
ZOOL 825	Marine Ecology	4 cr.
ZOOL 872	Fisheries Biology	3 cr.

» <http://www.arts.unh.edu/>

» [Click to view course offerings](#)

*This program is offered in Durham.*

### **Degree Offered: M.F.A.**

### **Admission Requirements**

A bachelor of fine arts degree in painting or the equivalent in undergraduate coursework (minimally this means 60 credit hours in studio art and 8 credit hours in art history) is required for admission to this program. Additionally, a minimum undergraduate GPA of 2.6 is required. Prospective students must submit 20 images of recent work to be reviewed by the graduate faculty of the Department of Art and Art History. Images should be emailed to [art-arthistory@unh.edu](mailto:art-arthistory@unh.edu) as individual attachments (maximum 1MB/image) in one email. The body of the email should contain only the applicant's full name and that they are applying for the MFA Painting program.

### **Degree Requirements**

Each student in the master of fine arts degree in painting program shall complete 60 credit hours of work. Twenty-six credits of work will be in the area of concentration (painting) leading toward a thesis exhibition. Eighteen credits will be in graduate-level drawing. Eight credits will be in graduate-level art history and the final eight credits will be in art electives to be chosen from drawing, printmaking, painting, or art history. In addition to the thesis exhibition, degree candidates will be required to submit a two-page written artist statement focusing on aesthetic, technical, and historical issues related to their work. Also required is participation in two major critiques per year. The graduate student will present their work with a verbal or written rationale to the entire graduate painting faculty, invited guests, and student peers.

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## Physics (PHYS) ▼

» <http://www.physics.unh.edu>

» [Click to view course offerings](#)

*This program is offered in Durham.*

*Assistant Professor: Shawna M. Hollen, Jiadong Zang*

### **Degrees Offered: M.S., Ph.D.**

The Department of Physics offers the degrees of master of science and the doctor of philosophy. Areas of specialization are space physics and astrophysics, experimental nuclear physics, biomedical imaging, theoretical high-energy physics, gravity, and string theory, and the theoretical and experimental physics of solids and nano-materials.

### **Admission Requirements**

Applicants to the master of science and doctor of philosophy programs are expected to have a bachelor's degree in science, with at least 24 credits in physics and closely allied fields. Applicants must submit current scores (within five years) from the general test of the Graduate Record Examination (GRE).

### **Degree Requirements**

## M.S. Degree Requirements

Five required courses: Experimental Physics 805 (or equivalent demonstrated experimental proficiency), Mathematical Methods of Physics 931, Theoretical Mechanics 939, Electromagnetic Theory 941, Quantum Mechanics 943. Students are also expected to take two semesters of Physics 806 Introduction to Physics Research & Teaching.  
Either

9 additional credits of coursework plus six credit hours of Master's thesis work (PHYS 899) and an oral thesis defense OR  
15 additional credits of coursework including a research project and an oral exam in the form of a seminar.

Students enrolled in the Ph.D. program can receive a master's after completing 15 additional credits of coursework and passing the written comprehensive and the oral qualifying exam.

## Ph.D. Degree Requirements

Eight required core courses: Experimental Physics 805 (or equivalent demonstrated experimental proficiency), Mathematical Methods of Physics 931, Statistical Physics 935, Theoretical Mechanics 939, Electromagnetic Theory 941-42, Quantum Mechanics 943-44, as well as two semesters of Physics 806 Introduction to Physics Research & Teaching, taken during the first year in the program.

Four additional 3+ credit courses of which 2 may be at the 800 level. For Space Science students, students, these courses must include Plasma Physics 951, Magnetohydrodynamics of the Heliosphere 953, and one of Magnetospheres 987, Heliospheric and Galactic Physics 954.

Demonstrate proficiency in teaching.

Passing the written comprehensive exam.

Passing an oral qualifying exam on a thesis proposal.

A minimum of two semesters of Doctoral Research (999).

Passing the oral thesis defense.

## Interdisciplinary Research

The department encourages research in areas related to physics or applied physics. If students desire to do research in a field related to physics, special provisions may be made. Contact the department chairperson or graduate adviser for details.

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## Plant Biology (PBIO) ▼

» <http://colsa.unh.edu/dbs>

» [Click to view course offerings](#)

*This program is offered in Durham.*

**Note: Effective Spring 2016 admission to the Master of Science and PhD degrees in Plant Biology has been suspended.**

## Admission Requirements

Applicants are expected to have adequate preparation in plant biology and in the fundamentals of physical and biological sciences. They must submit current scores (within five years) from the general test of the Graduate Record Examination (GRE).

## M.S. Degree Requirements

Students will meet the Graduate School's requirements for the degree (minimum of 30 credits). Students will be required to write and defend a thesis (6-10 credits) based on field or laboratory research.

### **Ph.D. Degree Requirements**

Students will complete a program of study as determined by their guidance committee. Students will be advanced to candidacy after successfully completing comprehensive written and oral qualifying examinations covering a broad basic knowledge of their major and minor fields and their ability to design and carry out basic research in plant biology. Candidates must successfully defend a dissertation based on original research in plant biology.

### **Teaching Requirements**

Teaching experience is required of all M.S. and Ph.D. degree students. The requirement may be fulfilled by enrolling in a supervised teaching course, by serving as a teaching assistant, or by having previous professional teaching experience.

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### **Political Science (POLT) ▼**

» <http://www.unh.edu/political-science/>

» [Click to view course offerings](#)

*This program is offered in Durham.*

### **Degrees Offered: M.A., M.P.A.**

### **Certificate Offered: Sustainability Politics and Policy**

### **About the Department of Political Science Graduate Programs**

The Department of Political Science at UNH offers two graduate degree programs: the master of arts in political science and the master of public administration. Both provide advanced study in international relations and comparative politics, American politics, public policy, and public administration. The programs serve students interested in working in government, public service, nonprofit management, electoral politics, education and research, and in preparing for Ph.D. programs. These degree programs give students the flexibility to tailor their coursework to individual interests within a curriculum that ensures a strong foundation in international and domestic politics, research methods, and public management. Faculty engage in teaching and research activities encompassing the fields of international and comparative politics, American politics, and public administration.

Both programs are offered to full- and part-time students. The M.A. program is offered in Durham. The M.P.A. program offers evening courses for working professionals primarily at the Manchester campus, with some elective course offerings at the Durham campus. The MPA Program also offers a limited number of on-line courses during the academic year.

### **Admission Requirements**

For the MA program, applicants are expected to have majored in political science or a related social science or humanities field. For the MPA program, many applicants have experience working in the public, private or nonprofit sectors. All applicants for both programs must possess a bachelor's degree from an accredited institution. The Graduate Record Examination (GRE) general test is required for the M.A. program. M.P.A. applicants are strongly encouraged to include GRE test results with their application, but it is required only for those M.P.A. applicants requesting consideration for graduate assistant or tuition assistance awards. MPA and international applicants may be asked to interview either in person or by conference call with the program director and/or the graduate program coordinator.

## **Degree Requirements**

### **M.A. with Thesis Option Degree**

Master's degree students must complete a minimum of 30 credits for the degree: eight courses and a 6-credit master's thesis (POLT 899). Of the eight courses, two are required seminars: Pro Seminar (POLT 900) and Introduction to Statistical Analysis (POLT 905), and are to be taken during the student's first year. Students are also required to take electives totaling 9 credits. This must include two courses in the student's major subfield (Comparative Politics, International Politics, and American Politics/Public Administration).

Nine credits must be completed at the 800 or 900 level from political science courses or courses offered in related disciplines. Students are encouraged to work with the MA program director to identify relevant courses of interest across the College of Liberal Arts graduate offerings. The MA program director must provide course approval for elective courses offered outside the department. Successful completion and defense of a 6-credit master's thesis is required.

### **M.A. Non-Thesis Option Degree**

Master's degree students must complete ten courses totaling a minimum of 30 credits for the degree. Students must also pass a comprehensive exam. Of the ten courses, two are required, Pro Seminar (POLT 900) and Introduction to Statistical Analysis (POLT 905), and are to be taken during the student's first year. Students are also required to take electives totaling 9 credits. This must include two courses in the student's major subfield (Comparative Politics, International Politics, and American Politics/Public Administration). One course in a minor subfield is also required for this degree option.

Fifteen credits must be completed at the 800 or 900 level from political science courses or a related discipline. Students are encouraged to work with the MA program director to identify relevant courses of interest across the College of Liberal Arts graduate offerings. The MA program director must provide course approval for elective courses offered outside the department.

The comprehensive examination must be successfully completed in the student's final year of study.

### **Certificate in Sustainability Politics and Policy**

The Certificate in Sustainability Politics and Policy is an interdisciplinary graduate certificate program administered by the Department of Political Science. The Certificate gives current graduate students, alumni and others in the community training and analysis on issues connecting environmental and social sustainability, politics and policy making initiatives. Courses include seminars in political science and electives in natural resource management, sustainability, economics, and other fields. Sustainability professionals increasingly find valuable careers in the public sector, in non-profit organizations and in the private sector. Coursework includes theoretical perspectives and applied skills to address sustainability issues at the local, national, and global levels.

#### **Applying**

In accordance with Graduate School requirements, the graduate certificate in sustainability politics and policy requires:

- Completed UNH application for admission to a graduate certificate program
- Personal statement on applicant's interest and goals regarding sustainability
- Current resume
- Official transcripts from previous undergraduate education and graduate education (if applicant has received graduate degree)
- Three letters of recommendation

Please visit the [Graduate School website](#) for detailed instructions about applying to the graduate certificate program.

#### **Certificate Requirements**

The course requirements focus the debates, in both the global North and the global South, on exactly what sustainability politics should (and/or should not) include. The goal is to connect global sustainability policy debates to those occurring at the local and national levels in New England, the United States, and other countries.

This graduate certificate program requires 13 total credits.

#### **Required courses:**

- POLT 995/996, Independent Study "Defining and Debating Sustainability" (1 credit). The independent study will include a core list of readings on sustainability concepts and cases in wealthier and poorer societies and methodological debates about how

these concepts may be measured and assessed.  
POLT 851, Comparative Environmental Politics and Policy (3 credits)  
POLT 880, International Environmental Politics (3 credits)

**Electives (any two of the courses listed below) (6 credits):**

Students will be advised by the certificate program director and other participating faculty members about which electives might be most appropriate and consistent with their interests and career goals. The list of approved electives affords students opportunities to focus on particular areas of environmental or social policy, or to seek to acquire additional methodological skills and disciplinary approaches in areas such as policy analysis or economics. Other electives offered by University of New Hampshire graduate programs may be approved by the sustainability certificate program director.

POLT: 878, 912, 914, 918  
DPP: 904, 907, 952, 954, 957  
ECON: 908  
ENED: 890  
HIST: 818, 866  
NR: 801, 818, 820, 824, 838, 884, 885  
PHP: 902, 907, 914, 930, 934, 936  
SOC: 830, 880, 894

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## Psychology (PSYC) ▼

» <http://www.unh.edu/psychology/>

» [Click to view course offerings](#)

*This program is offered in Durham.*

### **Degree Offered: Ph.D.**

Department of Psychology offers a four- or five-year program of study leading to the doctor of philosophy degree. The basic goal of the program is the development of behavioral scientists who have a broad knowledge of psychology, can teach and communicate effectively, and can carry out sound research in an area of specialization. Although some students seek employment outside academia, the program is oriented toward developing the skills required by the research psychologist who intends to become a college or university teacher.

Areas in which the student may specialize are brain, behavior, and cognition; developmental psychology; or social psychology/personality. The department does not offer training in clinical or counseling psychology.

### **Distinctive Features of the Program**

All psychology graduate students in the Ph.D. program receive a stipend and a full tuition waiver for up to five years. A low graduate student/faculty ratio provides opportunities to work closely with one or more faculty mentors. Graduates typically acquire tenure-track academic or postdoctoral positions at colleges and universities across the U.S.

The Department of Psychology is a national model for preparing future faculty. All graduate students teach Introduction to Psychology while taking a year-long seminar in the teaching of psychology, as well as one or two undergraduate survey courses in statistics and/or the student's area of specialization.

There are active research laboratories in all areas represented in the graduate program. The department has strong partnerships with such nationally recognized programs as UNH's Child Study and Development Center and the Family Research Laboratory. UNH also has a Center for Teaching Excellence to help graduate students and faculty improve the quality of their teaching.

### **Admission Requirements**

In addition to meeting the requirements for admission to the Graduate School, applicants must intend to be full-time students working toward the doctoral degree (not just the master's degree), and they must submit Graduate Record Examination (GRE) general test scores, along with other standard application forms. The subject test in psychology is recommended. Scores must be current, within five years.

## Ph.D. Degree Requirements

Required courses include first-year seminar (PSYC 904), three semesters of research methods and statistics (PSYC 905, 906, and 907 or 908), six advanced graduate seminars, and two semesters of the practicum and seminar in the teaching of psychology (PSYC 991-992). First-year students also participate in a noncredit graduate proseminar (PSYC 901-902), which introduces students to the research programs of the faculty. Depth in a particular area is obtained through participation in advanced seminars and by independent reading and research conducted under the supervision of a faculty member.

Prior to the doctoral dissertation, the student carries out original research that culminates in either a master's thesis or a paper of publishable quality. A master's degree is awarded upon the successful completion of a program approved by the department and dean of the Graduate School. This typically takes place by the end of the second year.

The third year of the program is dedicated to the practicum and seminar in the teaching of psychology in conjunction with the teaching of introductory psychology.

Advancement to candidacy for the Ph.D. degree depends on receiving the master's degree, passing a specialist examination in one of the department's areas of specialization, and identifying a topic for doctoral research. Advancement to candidacy is usually accomplished by the end of a student's fourth year in the program. During the fourth year, students typically begin dissertation research and teach an introductory course in their specialty area. Most students complete the Ph.D. degree in the fifth year.

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## Public Administration (POLT) ▼

» <http://www.unh.edu/political-science/>

» [Click to view course offerings](#)

*This program is offered in Durham and in Manchester through [GSMC](#).*

## Degrees Offered: M.P.A.

### About the Department of Political Science Graduate Programs

The Department of Political Science at UNH offers two graduate degree programs: the master of arts in political science and the master of public administration. Both provide advanced study in international relations and comparative politics, American politics, public policy, and public administration. The programs serve students interested in working in government, public service, nonprofit management, electoral politics, education and research, and in preparing for Ph.D. programs. These degree programs give students the flexibility to tailor their coursework to individual interests within a curriculum that ensures a strong foundation in international and domestic politics, research methods, and public management. Faculty engage in teaching and research activities encompassing the fields of international and comparative politics, American politics, political thought, and public administration.

Both programs are offered to full- and part-time students. The M.A. program is offered in Durham. The M.P.A. program offers evening courses for working professionals primarily at the Manchester campus, with some elective course offerings at the Durham campus. The MPA Program also offers a limited number of on-line courses during the academic year.

### Admission Requirements

For the MA program, applicants are expected to have majored in political science or a related social science or humanities field. For the MPA program, many applicants have experience working in the public, private or nonprofit sectors. All applicants for both programs must possess a bachelor's degree from an accredited institution. The Graduate Record Examination (GRE) general test is required for the M.A. program. M.P.A. applicants are strongly encouraged to include GRE test results with their application, but it is required only for those M.P.A. applicants requesting consideration for graduate assistant or tuition assistance awards. MPA and international applicants may be asked to interview either in person or by conference call with the program director and/or the graduate program coordinator.

### Degree Requirements



## M.P.A. Degree Requirements

Master of public administration students must complete a minimum of 36 or 39 credits for the degree.

Required courses include:

Four basic core curriculum courses in foundations and theory, organization and management, statistical analysis, and the capstone internship or project (POLT 905, 906, 909, and the 908, Capstone). 12-15 credits. Students are expected to take POLT 906 Foundations and Theory in either their first fall semester.

Three advanced core curriculum courses in finance and budgeting, human resources, labor relations, public or nonprofit management, administrative law, policy and program evaluation, leadership, performance management, or legal and policy-making environments (POLT 804, 808, 812, 898, 907, 911, 912, 914, 918). 9 credits

Five electives in public administration, political science, or related discipline with adviser's approval. 15 credits

Two of the five required electives will be waived for students who have successfully completed Level II of the New Hampshire Certified Public Manager Program.

The capstone internship or project is the culmination of the student's graduate work, applying academic knowledge with practical experience. Students without prior public or nonprofit sector professional experience are required to complete the 6-credit internship component of the capstone.

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## Public Health (PHP) ▼

» <http://www.chhs.unh.edu/hmp/master-public-health-mph>

» [Click to view course offerings](#)

*This program is offered in Manchester through [GSMC](#).*

### **Degree Offered: M.P.H.**

### **Certificate Offered: Public Health**

The College of Health and Human Services offers an interdisciplinary curriculum leading to the master of public health (M.P.H.). The program is designed to provide students with an integrated, generalist M.P.H. degree. The M.P.H. program is accredited by the Council on Education for Public Health (CEPH).

The Public Health Certificate Program provides a vehicle for individuals working in public or community health positions, with no formal academic background in public health, the opportunity to earn a graduate certificate in public health. To enter the certificate program, an applicant must have a baccalaureate degree. Students completing the certificate program can apply to enter the M.P.H. program. If accepted, certificate credits can be applied to the M.P.H. degree program.

The master of public health and public health certificate seek to enhance the capacity of working public health professionals to perform the 10 Essential Services of Public Health. The program is only offered at the University of New Hampshire Graduate School Manchester Campus (GSMC). Academic classes are offered in sessions within the academic semester and most courses are eight weeks in length and offered one evening per week for four hours. Working professionals can complete the M.P.H. program on a part-time basis over two years but have up to six years to complete the degree requirements.

### **Admission Requirements**

(Please note that since these are part-time programs they do not meet the full-time study requirements for international applicants with F-1 or J-1 visas.)

Applications are accepted for fall, spring, and summer semesters. The program encourages applications from persons who hold a baccalaureate degree from an accredited college or university. The admission committee uses previous academic records, Graduate

Record Examination (GRE) scores, current public health experience, responses to five essay questions regarding your interest in pursuing graduate education in public health, and recommendations from three individuals as indicators of success. Interviews with the program coordinator are encouraged.

To apply for the M.P.H. degree, applicants must submit:

1. A completed UNH Graduate School application form
2. Responses to five essay questions regarding their public health interests, goals, and beliefs (in lieu of a personal essay. See "Admissions Requirements" on the Graduate School's website)
3. Official transcripts from previous undergraduate and graduate education
4. Current résumé
5. Three letters of recommendation
6. GRE required. Applicants may request to have the GRE requirement waived if they have a previous master's degree already awarded (any field) or have 5+ years of work experience in the field. See the [Test Score Waiver Process](#) to request a waiver. If required, request official test scores to be sent directly to the Graduate School by the testing service. Test scores more than five years old may not be acceptable. Student copies and photo copies of scores are not considered official. Our CEEB code is 3918. [View Test Score Information.](#)

## **Degree Requirements**

### **M.P.H. Degree Requirements**

The M.P.H. program is a 48-credit curriculum. In addition to the five core courses found in every public health program: public health care systems (PHP 900), epidemiology (PHP 901), environmental health (PHP 902), biostatistics (PHP 903), and social and behavioral health (PHP 904), the program requires that all students complete four additional courses: administration (PHP 905), economics (PHP 922), policy (PHP 907), and ethics (PHP 908). Students must also complete five elective courses. The M.P.H. curriculum includes a field experience in which the student is expected to apply the theory and practice of public health to a particular area of student interest in a professional setting. The final course in the curriculum is an integrating seminar in which students work in teams, bringing both their individual and joint perspectives and expertise to address a particular public health problem for a New Hampshire-based public health entity.

Grades below the "B-" level in a graded course are considered failing grades for the purposes of determining academic standing. Repeating a course does not remove the original failing grade from the record. Students receiving failing grades in 6 or more credits either in two courses or in one course taken twice will be recommended by the M.P.H. program director to the Graduate School for dismissal from the M.P.H. or the Public Health Certificate Program. Students must have a cumulative grade-point average of 3.0 (B-), or higher, in order to graduate. Students admitted on a conditional or provisional basis must meet the conditions or provisions as stated in the letter of admission in order to remain in the Graduate School.

### **Public Health Certificate**

As part of the Master of Public Health Program's continuing education program, a public health certificate (PHC) is offered.

#### **Applying**

Applications are accepted for both fall and spring semesters. Certificate program applicants must possess a baccalaureate degree from an accredited college or university. Students are expected to have experience in public health.

To apply for the certificate of public health, applicants must submit:

1. A completed UNH graduate certificate program application
2. Responses to five essay questions regarding their public health interests, goals, and beliefs
3. Official transcripts from previous undergraduate and graduate education
4. Current résumé
5. Two letters of recommendation

Please visit the [Graduate School website](#) for detailed instructions about applying to the graduate certificate program.

#### **Certificate Requirements**

The public health certificate is a 12-credit program that can be completed on a part-time basis over one calendar year. All courses (with the exception of workshops taken as part of PHP 996) must be taken at UNH. Students completing the Public Health Certificate Program can apply to enter the M.P.H. program. If accepted, certificate credits can be applied to the M.P.H. program. To earn the public health certificate, a student must successfully complete the following 12-credit curriculum consisting of following three required courses and one elective course.

PHP 900, Public Health Care Systems, 3 cr.

PHP 901, Epidemiology, 3 cr.

PHP 996, Applied Topics in the Essentials of Public Health, 3 cr. (This course has a unique structure that allows students to tailor their learning experience about the Ten Essential Services of Public Health to their professional goals and interests. To learn more about this course design, please consult the Public Health Certificate Section of the [M.P.H. Student Handbook](#).)

One elective, 3 cr. (Students can take any M.P.H. course as long as any prerequisites have been met. For a complete listing of M.P.H. courses offered, see the [M.P.H. Student Handbook](#).)

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## Recreation Management and Policy (RMP) ▼

» <http://www.chhs.unh.edu/rmp/index>

» [Click to view course offerings](#)

*This program is offered in Durham.*

*Associate Professor:* Robert J. Barcelona, Patricia J. Craig, Allison Wilder

*Assistant Professor:* Jessie Bennett, Cindy L. Hartman, Nate Trauntvein

*Clinical Assistant Professor:* Jennifer Frye, Matthew Frye, Jill Gravink, Sean McLaughlin

### **Degree Offered: M.S.**

The Department of Recreation Management and Policy offers the master of science degree in recreation management and policy with options in recreation administration or therapeutic recreation administration. The Department of Recreation Management and Policy is accredited by the National Council on Accreditation of Parks, Recreation, Tourism, and Related Professions, and the Commission on the Accreditation of Recreational Therapy Education.

The primary purpose of the RMP graduate program is to prepare professionally educated recreation and therapeutic recreation administrators to serve their communities and provide leadership that addresses the quality of life issues of an increasingly diverse and complex society. The MS program in RMP provides a foundation in leisure theory, research, and data analysis to conduct applied research within the field, and administration skills for management level positions in practice.

An atmosphere of collegiality and collaboration fosters interactions between faculty and students. Faculty and students are actively engaged in applied research.

### **Recreation Administration Option**

The Recreation Administration option prepares professionals with advanced knowledge and skills to plan and administer recreation services. Postgraduate employment opportunities include directors of town and municipal recreation programs, YMCAs, resort programs, camps, campus/intramural sports, fitness centers, youth services agencies, and sports and recreation facilities as well as outdoor recreation planners for the U.S. Forest Service, National Park Service, and state park systems. New specializations are available in adapted sports through our partnership with Northeast Passage ([www.nepassage.org](http://www.nepassage.org)), or in campus recreation through our partnership with UNH Campus Recreation (<http://campusrec.unh.edu/>).

### **Therapeutic Recreation Administration Option**

The Therapeutic Recreation Administration option prepares advanced personnel for administrative responsibilities in clinical-based practice & administrative leadership in community-based recreation services that meet the needs of individuals with disabilities. Graduate education serves Therapeutic Recreation Specialists who wish to move into administrative positions such as supervisor/manager/director, senior therapist, treatment coordinator, assisted-living manager, and senior center supervisor. A new specialization in community-based TR is also available through our partnership with Northeast Passage ([www.nepassage.org](http://www.nepassage.org)), including coursework and practice experiences related to in-home/community health promotion programming, TR service delivery in the school system, and adapted sports.

Students without an academic or clinical background in therapeutic recreation may use the M.S. program to satisfy the academic requirements for the national credentialing examination used by the National Council on Therapeutic Recreation Certification (NCTRC) and for New Hampshire state licensure. While the graduate program does not require prerequisite courses to qualify for admission, the credentialing examination does require coursework outside the M.S. curriculum requirements and the department may require leveling coursework upon acceptance to the M.S. program.

## Admission Requirements

Admission is based on a personal history that demonstrates academic achievement and/or exemplary work experience, as well as the applicant's ability to articulate in the personal statement his or her potential and desire for graduate study in recreation administration or therapeutic recreation administration. Generally, students must have earned a minimum grade-point average of 3.00 to be considered for admission. Applicants are required to submit copies of prior academic records (official academic transcripts), current scores (within five years) from the general test of the Graduate Record Examination (GRE), three professional and/or academic references, a current resume or curriculum vita, written personal statement, and a complete Graduate School application.

A baccalaureate degree must be conferred prior to beginning the program. Interviews are encouraged but not required for all applicants. Students who wish to apply for a graduate assistantship should contact the department's graduate coordinator for an application. Admission to the program is selective and limited. It is in the applicant's best interest to apply early.

## Degree Requirements

Individuals seeking a career change to recreation or therapeutic recreation administration with an undergraduate degree in a related field (e.g., education, psychology, business, special education) may be admitted to the Graduate School as a provisional student, with the expectation that they complete any required prerequisites prior to, or concurrent with, graduate courses. Prerequisite courses will be determined based on professional experience and educational background. A specially designed curriculum is available to provisionally admitted students.

The degree program consists of required and elective coursework. In consultation with a faculty adviser, students will select either a thesis or non-thesis track. Students in both options are required to complete 30 credits as detailed in the following program outline.

**Required courses.** There are four core courses (12 credits) that all M.S. students in recreation management and policy are required to take regardless of option area.

**Elective courses.** Students who take the non-thesis track complete five courses (15 credits) from a list of RMP courses and courses outside the department. Students in the thesis track take four elective courses (12 credits).

**Capstone experience.** All students take a capstone experience. This experience will be either RMP 899, Master's Thesis (6 credits) or RMP 995, Colloquium Seminar (3 credits).

It is expected that the M.S. in Recreation Management and Policy will take full-time students two years to progress through all degree requirements. If a student takes leveling courses, they may need to complete more than two years. Most TR Administration students who level, complete two years of academic work and one semester of an internship. Part-time students should be able to complete the program in three years. Courses are generally offered once a week in three-hour blocks in the afternoon and evenings.

### Required Core Competencies (4 courses = 12 credits)

1. RMP 800, Concepts of Recreation and Leisure
2. RMP 805, Management and Policy in Therapeutic Recreation  
or  
RMP 806, Recreation Administration and Organizational Behavior
3. Research methods course from the following options:
  - RMP 998, Special Topics, Research Methods
  - EDUC 981, Methods and Techniques of Educational Research
  - FS 994, Research Seminar
  - KIN 901, Analysis of Professional Literature
  - OT 903, Research Methods for Occupational Therapists
  - SW 860, Research Methods in Social Work
4. Graduate-level statistics from the following options:
  - KIN 900, Applied Statistics
  - OT 902, Statistics for Occupational Therapists
  - SW 962, Research II, Statistics

### Elective courses (4 courses/12 credits thesis option and 5 courses/15 credits non-thesis option with at least one elective from RMP)

- RMP 811, Recreation Resource Management
- RMP 830, Camp Administration and Leadership

RMP 860, Community Sport Organizations: Administration and Development  
RMP 868, Theories and Philosophies of Youth Development  
RMP 870, Management and Design of Recreation & Park Facilities  
RMP 872, Law and Public Policy in Recreation Services  
RMP 910, Conceptual Issues and Trends in Therapeutic Recreation  
RMP 912, Non-Profit Administration and Leadership  
RMP 924, Grantwriting and Fund Development  
RMP 964, Graduate Internship  
RMP 970, Teaching Practicum  
RMP 980, Independent Study

Example of electives outside of the department:

SOC 970, Social Stress and Health  
SOC 988, Medical Sociology: Health, Healing and Society  
SOC 880, Social Conflict  
SW 840, Implications of Race, Culture and Oppression for Social Work Practice  
SW 814, Introduction to Addiction: Assessment and Intervention  
SW 897, Special Topics: Adventure Therapy: Facilitating and Processing the Experience  
ADMN 851, Advertising and Promotion  
ADMN 855, Marketing of Services  
NURS 945, Clinical Decision Making in Health Care  
RAM 805, Ecotourism: Managing for the Environment  
RAM 867, Social Impact Assessment  
KIN 841, Social Issues in Contemporary Sports  
KIN 843, Sport Marketing  
KIN 881, Inclusion in Physical Education  
KIN 890, Social and Health Issues in Sport Psychology  
RAM 877, Fundamentals and Practice of Community Planning  
PHP 920, Social Marketing  
PHP 922, Public Health Economics

### **Capstone Course**

RMP 899, Master's Thesis (6 credits)  
or  
RMP 995, Colloquium Seminar, non-thesis track (3 credits)

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## Resource Administration and Management (RAM) ▼

» <http://envecon.unh.edu/graduate>

» [Click to view course offerings](#)

*This program is offered in Durham.*

### **Degree Offered: M.S.**

The Department of Natural Resources and the Environment coordinates the interdisciplinary master of science degree program in resource administration and management. Students may specialize in management of publicly and privately owned natural resources or in administration of natural resource laws and policies.

### **Admission Requirements**

Applicants are expected to have completed either an undergraduate degree in the field in which they plan to specialize or show adequate preparation in the basic support courses of the field. A minimum of one course in each of the areas of ecology or natural resources, intermediate microeconomics, and introductory statistics is required. Persons having professional experience in resource administration, management, or related areas receive priority for admittance to the program. An applicant is required to submit an essay of up to 2,000 words describing his or her background and goals.

Applicants with good undergraduate records who lack a background in a particular field may be admitted to a program, provided they are prepared to correct the deficiencies. Applicants must submit current scores (within five years) from the general test of the Graduate Record Examination (GRE).

## M.S. Degree Requirements

The master of science degree in resource administration and management is conferred upon successful completion of a program amounting to not less than 34 credits, including the following course requirements or equivalent:

NR 903, Approach to Research  
Quantitative methods or analytical techniques  
RAM 911, Natural and Environmental Resource Management  
An advanced course in environmental policy  
RAM 898, Directed Research, 4-6 cr. or  
RAM 899, Thesis, 6-10 cr.  
Final oral and/or written examination

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## Social Work (SW) ▼

» <http://chhs.unh.edu/sw/index>

» [Click to view course offerings](#)

*This program is offered in Durham and in Manchester through [GSMC](#).*

*Associate Professor: Mary Banach, Vernon Brooks Carter, Jerry D. Marx, Patrick Shannon, Anita Tucker, Melissa Wells*

*Assistant Professor: BoRin Kim, Cory Morton*

*Clinical Associate Professor: Martha A. Byam, Susan A. Lord*

*Clinical Assistant Professor: Gretchen Bean, Trish Haneman Cox, Kim Kelsey, William Lusenhop, Brian Miller, Lee P. Rush*

## Degree Offered: M.S.W.

The Department of Social Work offers a master of social work (M.S.W.) degree. This program develops advanced professional knowledge and skills for persons interested in pursuing careers in the field of social work. The M.S.W. program is accredited by the Council on Social Work Education (CSWE). It requires two years of full-time study or three-to-four years of extended-time study.

The program features an advanced generalist concentration, which is the most common concentration in social work. It is very well suited for practice in rural, suburban, and urban settings and is viable for career positions where a CSWE-accredited degree is required. MSW students will be able to select three electives in one or more fields of practice: (1) Health and mental health; (2) Addictions and substance abuse; (3) Children, youth, and families, (4) Disabilities; or a self-designed field of practice.

The full-time program is available in Durham only; the extended-time program is available in Durham or Manchester. The Manchester academic classes are delivered in a weekend model with admission every other year. Both programs require classroom work and two year-long field internships. Field internship hours are typically completed during normal business hours.

The department also offers an M.S.W Online Program in which you can earn your Master of Social Work degree online in 28 months. M.S.W Online students are required to complete two field internships at a program or agency in their local community and work with Social Work Department field office to identify acceptable field sites. No campus visits are required at any time.

In addition, the Department of Social Work offers two dual degrees. The social work and kinesiology dual-degree program consists of a master in social work (M.S.W.), as well as a master of science (M.S.) in kinesiology with a concentration in outdoor education. For additional information regarding the social work/kinesiology dual degree, contact Anita Tucker at [Anita.Tucker@unh.edu](mailto:Anita.Tucker@unh.edu).

The Department of Social Work and the School of Law at the University of New Hampshire (UNH) also offer a dual degree resulting in the JD/M.S.W. In four years, students will be able to complete two graduate degrees, a master in social work (M.S.W.) and a Juris Doctor to prepare them for a career in law and social work. For additional information regarding the social work/law dual degree, contact Sharon Murphy at [Sharon.Murphy@unh.edu](mailto:Sharon.Murphy@unh.edu).

Additionally, the department offers graduate certificates in Intellectual and Developmental Disabilities and Substance Use Disorders. For training programs, the Title IV-E Child Welfare Training Program and a University Partnerships child welfare program are available for eligible M.S.W. students interested in a career in child protective services. For information regarding the Title IV-E program, contact Kim Kelsey at [Kim.Kelsey@unh.edu](mailto:Kim.Kelsey@unh.edu). For additional information on the UP program, contact Melissa Wells at [Melissa.wells@unh.edu](mailto:Melissa.wells@unh.edu). Program information and application materials can be found at <http://chhs.unh.edu/sw/child-welfare-and-partnerships-training>.

## Admission Requirements

The department encourages applications from those who hold a baccalaureate degree from an accredited college or university; have attained an overall grade-point average of "B" or better in undergraduate coursework; and have completed courses in a broad range of liberal arts and science disciplines. Applicants should include a resume of two pages or less, which lists educational, work, and volunteer experiences, as well as any special skills or attributes. Applicants must submit professional recommendations from three individuals, one of whom could be a member of an academic faculty. Professional letters of reference should describe the applicant's volunteer or work duties, skills and values relevant to social work practice with diverse populations, ability to collaborate with others, and overall strengths and challenges relevant to graduate study. Applicants should complete a personal statement of interest in pursuing graduate education in the field. Significant volunteer and/or work experience in the field is strongly recommended. Application expectations include graduation from an accredited undergraduate institution with a broad liberal arts background.. Applicants who do not meet these requirements may fulfill them after admissions but before their second year of study. All applicants are encouraged to contact departments directly to discuss program specific application questions. Standardized graduate examinations are not required, but results of such tests may be submitted to supplement other admission materials.

Students applying to the Online M.S.W. Program must meet the application requirements shown above. The Online M.S.W. Program provides the same quality education that the campus-based programs offer. The Online program admits students every fall, spring, and summer. Students can complete their coursework and field practicum work at home and in their own community. No campus visits are required at any time.

Students applying for advanced standing must hold a B.A. from an accredited S.W./B.S.W. program with a minimum overall grade-point average of 3.2 (4.0 point scale). This coursework must have been completed within five years of the date of M.S.W. matriculation. Advanced-standing applicants must also submit a reference from a B.S.W. faculty member and the undergraduate field supervisor or field coordinator. Students applying to the extended-time program at UNH Manchester are advised that the Manchester program admits students every other year.

Students applying to the dual-degree programs must meet the application requirements for both the Departments of Social Work and Kinesiology or the UNH School of Law. See Kinesiology and the UNH School of Law for their admission requirements.

The M.S.W. program concentrates on strengths and empowerment models that encourage individuals and families, and communities and organizations to realize their full potential. The department supplies students with a social and community systems context and promotes practice skills that are responsive to diversity issues. The program is housed in Pettee Hall with access to interview observation rooms and state-of-the-art classrooms and computer labs.

Financial aid opportunities in the department include grants for students interested in the child welfare field or in work with children with developmental disabilities and their families. The department also offers graduate research assistantships to a few second-year students. Graduates of the program are employed in a wide variety of social and human service agencies as direct practitioners and in managerial roles. Please be aware that as a condition of being placed in some agency settings, graduate social work students may be required to complete a criminal record check with both state and law enforcement agencies.

### **M.S.W. Degree Requirements**

An M.S.W. candidate must complete 62 credit hours of 800- or 900-level courses including two, two-semester field internships, comprising a total of 1,240 hours in the field. Grades below the B- level in a graded course or a "fail" in a credit/fail course are considered failing grades for the purposes of determining academic standing. Repeating a course does not remove the original failing grade from the record. Graduate students receiving failing grades in 9 or more credits, received either in three courses or in any combination of courses taken twice, will be dismissed from the M.S.W. program.

Although a significant portion of the curriculum is required, students will be able to complete three elective courses. At least one of these must be taken from among Department of Social Work course offerings.

#### **Core MSW Program Advanced Generalist Courses, minimum 62 credits**

SW 820, Social Welfare Policy I

SW 830, Advanced Generalist Social Work Practice I

SW 840, Race, Culture & Oppression

SW 850, Human Behavior & the Social Environment I (HBSE I)

SW 880, Field Internship I (seminar and concurrent two-day/week internship/academic year)

SW 860, Research Methods

SW 831, Advanced Generalist Social Work Practice II

SW 851, Human Behavior & the Social Environment II (HBSE II)

SW 926, Social Welfare Policy II

SW 881, Field Internship II (seminar and two-day/week internship continued from SW 880)

SW 930, Advanced Generalist Practice III

SW 952, HBSE III

SW 962, Statistics and Data Analysis

SW 982, Field Internship III (seminar and concurrent three-day/week internship/academic year)

SW 931, Advanced Generalist Practice IV

SW 965, Program & Practice Evaluation

SW 983, Field Internship IV (seminar and three-day/week internship continued from SW 982)

Electives, three 3-credit elective courses from social work (other graduate programs with permission)

Electives options are:

SW 801 - Women and Aging

SW 805 - Child and Adolescent Risks and Resiliency: Program, Policy and Practice

SW 806 - Social Action in the Dominican Republic

SW 812 - Understanding Developmental Disabilities

SW 813 - School Social Work

SW 814 - Introduction to Addiction: Assessment and Intervention

SW 815 - Practice with Gay, Lesbian, Bisexual, and Transgender People

SW 816 - Addiction: Myth, Science and Policy

SW 819 - Addiction Recovery

SW 865 - Adventure Therapy: Facilitation and Processing of the Experience

SW 870 - Intimate Partner Violence

SW 897 - Special Topics in Social Work and Social Welfare

SW 957 - Fund Development and Grantwriting

SW 973 - Interventions with Groups

SW 974 - Social Work Supervision

SW 975 - Theory and Practice of Family Therapy

SW 979 - Social Work and the Law

### **Advanced Standing Program**

The M.S.W. program at the Durham campus considers advanced standing for exceptional students with undergraduate degrees from accredited baccalaureate social work programs. Applicants must have graduated from the B.S.W. program within five years of matriculation into the M.S.W. program. Advanced standing students complete a minimum of 35 credits for graduation. This includes a 10-week summer practicum and seminar, which students must take prior to their advanced practice and field placement. Additional information may be obtained by contacting the coordinator of graduate admissions in the department office.

### **MSW Program Advanced Standing (post B.S.W./B.S.S.W.) Courses, minimum 35 credits**

SW 900, Advanced Standing Seminar

SW 840, Race, Culture & Oppression

SW 930, Advanced Generalist Practice III

SW 952, HBSE III

SW 962, Statistics and Analysis

SW 982, Field Internship III (seminar and concurrent internship)

SW 926, Social Welfare Policy II (unless completed in B.S.W./B.S.S.W., then an elective)

SW 931 Advanced Generalist Practice IV

SW 965, Program & Practice Evaluation

SW 983, Field Internship IV (Seminar & Concurrent Internship)

Elective, one 3-credit course

### **Dual Degree Programs**

**Social Work and Kinesiology:** Dual-degree social work and kinesiology students take classes simultaneously over the course of two-and-a-half years in both social work and kinesiology: outdoor education and complete a minimum of 77 credits for graduation. This includes two internships, one during their first year of study, and a second specialized block placement internship over the summer following the second year of study, which concentrates on the utilization and application of adventure therapy in an agency setting. This block placement internship may occur in New England or in other appropriate settings across the U.S.

Students are required to also complete either a master thesis or an advanced studies project during their last year of study, which is supervised by faculty in kinesiology: outdoor education. For additional information regarding the Social Work/KIN dual degree course requirements, contact Anita Tucker at [Anita.Tucker@unh.edu](mailto:Anita.Tucker@unh.edu) or visit the dual degree website at: <http://www.chhs.unh.edu/sw/master-social-work-and-adventure-therapy-ms>

### **Social Work and Kinesiology Dual Degree Program MSW/MS Courses, minimum 77 credits:**

SW 820, Social Welfare Policy I

SW 830, Advanced Generalist Social Work Practice I



SW 840, Race, Culture & Oppression  
SW 850, Human Behavior & the Social Environment I (HBSE I)  
SW 880, Field Internship I (seminar and concurrent two-day/week internship/academic year)

KIN 882, Adventure Therapy: Therapeutic Practices of Adventure Programming

SW 860, Research Methods  
SW 831, Advanced Generalist Social Work Practice II  
SW 851, Human Behavior & the Social Environment II (HBSE II)

SW 881, Field Internship II

KIN 883, Psychological Aspects of Adventure Education

SW 930, Advanced Generalist Practice III

SW 962, Statistics and Data Analysis

SW 952, Human Behavior & the Social Environment III

KIN 897, Advanced Research in Outdoor Education

SW 931, Advanced Generalist Practice IV

KIN 886, Organization and Administration of Outdoor Education

SW 865, Adventure Therapy: Facilitating and Processing the Experience

KIN 887, Theory of Adventure Education

SW 926, Social Policy II

SW 982, Field III

SW 983, Field IV

KIN 884, Foundations of Adventure Education

**Social Work and UNH School of Law:** The Department of Social Work and the School of Law at the University of New Hampshire (UNH) also offer a dual degree resulting in the JD/M.S.W. In four years, students will be able to complete two graduate degrees, a master in social work (M.S.W.) and a Juris Doctor to prepare them for a career in law and social work. For additional information regarding the social work/law dual degree course requirements, contact Sharon Murphy at [Sharon.Murphy@unh.edu](mailto:Sharon.Murphy@unh.edu).

**Social Work and Law JD/MSW Courses:**

Please visit this website for JD Course Requirements:

<http://law.unh.edu/academics/jd-degree/jd-curriculum/general-requirements>

SW 820, Social Welfare Policy I  
SW 830, Advanced Generalist Social Work Practice I  
SW 840, Race, Culture & Oppression  
SW 850, Human Behavior & the Social Environment I (HBSE I)  
SW 880, Field Internship I (seminar and concurrent two-day/week internship/academic year)

SW 860, Research Methods  
SW 831, Advanced Generalist Social Work Practice II  
SW 851, Human Behavior & the Social Environment II (HBSE II)  
SW 926, Social Welfare Policy II  
SW 881, Field Internship II (seminar and two-day/week internship continued from SW 880)  
SW 930, Advanced Generalist Practice III  
SW 952, HBSE III  
SW 962, Statistics and Data Analysis  
SW 982, Field Internship III (seminar and concurrent three-day/week internship/academic year)  
SW 931, Advanced Generalist Practice IV  
SW 965, Program & Practice Evaluation  
SW 983, Field Internship IV (seminar and three-day/week internship continued from SW 982)

Capstone: In Field IV (SW 983), students will complete an assignment that will highlight their ability to demonstrate all 9 social work competencies.

## **Graduate Certificates: Intellectual and Developmental Disabilities and Substance Use Disorders**

The M.S.W. program offers two certificate programs.

### **Intellectual and Developmental Disabilities Certificate**

#### **About the Program**

The College of Health and Human Services, Department of Social Work at the University of New Hampshire (UNH) and the New Hampshire Leadership Education in Neurodevelopmental and Related Disabilities (NH-LEND) training program at the Institute on Disability co-sponsor the Intellectual and Developmental Disabilities Graduate Certificate program. The needs of individuals with intellectual and developmental disabilities extend beyond the boundaries of any one discipline. Therefore, this program emphasizes an interdisciplinary, collaborative approach to providing holistic, family-centered services to children and families. This 12-credit-hour interdisciplinary program is designed to focus on the development of advocacy and practice skills for professional work with individuals with intellectual and developmental disabilities and their families.

Students enrolled in the graduate certificate program will benefit from collaboration and interaction with faculty and students from many departments within the university. Additionally, students will benefit from working with staff and faculty associated with the Institute on Disability. A unique feature of this program is its collaborative relationship with the NH-LEND program. The NH-LEND program focuses on developing educational excellence related to: a) the most current knowledge regarding neurodevelopmental disabilities, b) the process of interdisciplinary collaboration and partnership, and c) strategies for continuous improvement of effective leadership. Students in the Leadership in Children's Health and Disability program will participate in a two semester Special Topics Seminar series on Neurodevelopmental and Related Disabilities with MCH-LEND trainees and faculty representing the disciplines of health management and policy, nursing, nutrition, occupational therapy, pediatrics, physical therapy, psychology, social work, speech language pathology, and special education.

#### **Who Should Apply**

- Individuals interested in improving the quality of life for children with special health care needs and disabilities and their families
- Individuals enrolled in the New Hampshire-Leadership in Education in Neurodevelopmental Disabilities (NH-LEND) training program
- Individuals interested in developing leadership skills to work with children with special health care needs and disabilities, and families
- Individuals interested in taking graduate-level courses at a leading university, with the option of applying credit toward a graduate degree in their respective disciplines
- Individuals interested in working with a dynamic interdisciplinary group of faculty and students
- Individuals interested in advancing their careers
- Individuals interested in developing new career options

#### **Requirements**

There are two separate tracks for this program. Track 1 is for students enrolled in the New Hampshire-Leadership Education in Neurodevelopmental Disabilities (NH-LEND) training program. Track 2 is for all other students. The program of study consists of two required courses (6 credit hours), and two (2) electives (6 credit hours) or one (1) elective and one (1) three(3)-credit hour independent study. Below is a detailed description of each track.

#### **Track 1 (NH-LEND Trainees)**

##### **Course Requirements – 12 credits total**

##### **Required Courses:**

- HHS 898, Topics in Neurodevelopmental Disabilities (3 cr.) (LEND Seminar – Fall Semester)
- HHS 898, Topics in Neurodevelopmental Disabilities (3 cr.) (LEND Seminar – Spring Semester)

##### **Electives**

- Two(2) elective(s) or one (1) elective and one (1) three(3)-credit hour independent study (see below)** related to disability and/or special health care needs focused on children, youth, and/or families (6 cr.)
- An independent study can focus on leadership, policy, practice, or research that supports individuals with intellectual and developmental disabilities. For example, students could conduct a policy analysis, research, program evaluation, advocacy, training, or other systems change related activity (3 credits).

#### **Track 2 (All Other Students)**

##### **Required Courses:**

- SW 812, Understanding Developmental Disabilities (Spring) or EDUC 850 - Introduction to Exceptionality (fall)
- COMM 916, Autism Spectrum Disorders (Spring) or SW 897: Mental Health Aspects of IDD

## **Electives**

**Two(2) elective(s) or one (1) elective and one (1) three(3)-credit hour independent study (see below)** related to disability and/or special health care needs focused on children, youth, and/or families (6 cr.)

An independent study can focus on leadership, policy, practice, or research that supports individuals with intellectual and developmental disabilities. For example, students could conduct a policy analysis, research, program evaluation, advocacy, training, or other systems change related activity (3 credits).

All coursework for the certificate must be completed within three years. Students who successfully complete the program will receive an official student certificate from the University of New Hampshire Graduate School.

Courses completed during the certificate program may be applied toward degree requirements upon the approval of the appropriate graduate program coordinator and the Graduate School. Tuition is equal to the rates for resident graduate degree students. Tuition for non-resident students will be 10 percent above the resident rate.

## **Contact Information**

Individuals holding a bachelor's degree from an accredited institution are eligible to apply. Applicants must submit: 1) an application form, 2) official transcripts, and 3) a \$25 processing fee (this fee is waived for graduate students who are currently enrolled). Applications are available by contacting the program coordinator. Applications will be accepted anytime, and admissions decisions are made promptly. For more information about the program and the application process, contact:

Patrick Shannon, Associate Professor  
Project Coordinator  
Department of Social Work and NH-LEND Program  
University of New Hampshire  
55 College Road, 311 Pettee Hall  
Durham, NH 03824  
(603) 862-5016  
Patrick.shannon@unh.edu

## **Links & Additional Resources**

[\*\*The New Hampshire Maternal and Child Health Leadership Education in Neurodevelopmental and Related Disabilities \(MCH-LEND\) Program\*\*](#)

[Department of Social Work](#)

[UNH College of Health and Human Services](#)

## **Substance Use Disorders Certificate**

### **Certificate Requirements**

The Substance Use Disorders Graduate Certificate consists of 12 credit hours acquired through a series of four required courses covering etiology of addictions, addiction policy analysis, addiction research and best practices, and system theory and strengths perspective.

Students are required to complete the following social work courses in no particular order: (1) Addiction: Myth and Science, (2) Assessment for Addictions, (3) Treatment of Addictions, and (4) Addiction Recovery.

Courses are offered at the UNH Manchester campus during evenings and weekends.

**Applying:** Please contact Brian Miller at Brian.Miller@unh.edu or (603) 862-1013 for details about applying for the certificate.

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## Sociology (SOC) ▼

» <http://www.unh.edu/sociology/>

» [Click to view course offerings](#)

*This program is offered in Durham.*

**Degrees Offered: M.A., Ph.D.**

The Department of Sociology offers M.A. and Ph.D. degrees in sociology. The master's degree program emphasizes theory and methodology. Students in the doctoral program are expected to select one major area for intensive study and examination. There are five major substantive areas for possible specialization: crime and conflict, family, social stratification, health and illness, and community and environment. Students may pursue specialties within or across the major areas of specialization or propose to the graduate committee other major areas of specialization that fall within the faculty's competence.

### **Admission Requirements**

In addition to meeting the general Graduate School requirements, applicants must submit current scores (within five years) from the general test of the Graduate Record Examination (GRE). All international applicants must take the TOEFL or IELTS exam.

Undergraduate majors in other fields may be admitted. However, if the student's undergraduate work has not included introductory courses in sociological theory, research methods, and statistics, these courses must be taken, or equivalent knowledge demonstrated, in addition to the requirements outlined above.

All students entering the program must complete the M.A. before admission to the Ph.D. program. The department welcomes applicants who plan to continue for the Ph.D. as well as students planning for the M.A. only.

### **Degree Requirements**

#### **M.A. Degree Requirements**

Students must complete at least 26 credit hours (seven courses) of graduate-level coursework in sociology, including the Proseminar in Sociology (900, 2 cr.), Sociological Methods I (901), Sociological Methods II (902), Sociological Theory I (911), and three elective graduate seminars. In addition, students must complete 6-10 credits of Master's Thesis work (899). Successful completion of the thesis constitutes the capstone experience for the M.A. degree.

#### **Ph.D. Degree Requirements**

Students must complete a minimum of three years in residence and take a minimum of sixteen courses in sociology (at least eight as seminars) other than thesis or dissertation research, including the Proseminar in Sociology (900, 2 cr.), Sociological Theory I and II (911 and 912), Sociological Methods I, II, III, and IV (901, 902, 903, and 904), four courses in a major area, and five elective courses. Students must pass written examinations in the major area of sociological specialization and in advanced theory and methodology, and write and defend the doctoral dissertation.

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### Spanish (SPAN) ▼

» <http://cola.unh.edu/lc/program/spanish-ma>

» [Click to view course offerings](#)

*This program is offered in Durham.*

#### **Degree Offered: M.A.**

The program in Spanish in the Department of Languages, Literatures, and Cultures offers a master of arts degree of Spanish with courses in the following areas: Topics in Second Language Acquisition, Pedagogy and Methodology; Topics in Hispanic Literature and Cultural Studies; and Topics in Hispanic Linguistics and Cultural Studies. The program also supports work in interdisciplinary Hispanic studies.

#### **Admission Requirements**

Applicants shall have received a bachelor's degree from an accredited institution with an undergraduate major in Spanish or its equivalent. The personal statement for the graduate application should be written in Spanish. Two of the three letters of recommendation should come from current or former professors. Graduate Record Examination (GRE) scores are not required.

## Degree Requirements

To obtain the degree, the candidate must complete a minimum of 30 credits. To satisfy the course requirements, the candidate must successfully complete ten graduate courses, eight of which should be from the offerings of the Spanish program. Two of the ten courses can be taken in allied fields approved by the department. All candidates must take Spanish 901, a 3-credit course dealing with bibliography and methods of research. Preparation of a bibliographical essay in this course is the final requirement for graduation. Spanish 901 counts toward the ten courses required to complete the degree.

## Typical Program Outline

Year 1	
Fall	SPAN 901 Bibliography & Research Methods ( <i>continues until degree completion</i> ) 800-level courses from the 800-level course offerings ( <i>two</i> ) 997 Graduate Seminar (as available)
Spring	800-level courses from the 800-level course offerings ( <i>one or two</i> ) 997 Graduate Seminar (as available)
Summer	2 courses at an approved graduate level study-away summer program, or complete two courses in approved allied field courses
Year 2	
Fall	800 courses from the 800 course offerings ( <i>one or two as needed</i> ) 997 Graduate Seminar ( <i>as needed</i> )

## Examples of Past Seminar Titles

Econovels of Central America  
Contemporary Spanish Literature  
Second Language Acquisition: Technology  
El Camino de Santiago  
Cultures of Spain: Basque  
Baroque Literature: Sor Juana  
Latin American Lit. & the Border  
Spanish Phonetics & Dialectology  
Latin American Afro Caribbean Lit.  
The Baroque: Siglo de Oro  
Structure & Applied Linguistics  
Baroque to Surrealism & Beyond  
Spanish Sociolinguistics  
Literatura comparada  
Literatura y cultura argentinas  
La nueva mirada del cine femenino español  
Mood, Tense & Pronouns: Structure, Meanings, & Variation in Spanish Syntax  
Literary & Cultural Trends of Contemporary Central America  
Digital Media in Second Language Acquisition  
The World of Salvador Dalí  
Hispanic Literature and Culture in the Digital Age

## Financial Aid

Applicants whose permanent residence is Maine or Vermont are eligible for the New England Regional Program for which tuition is assessed at the in-state New Hampshire rate plus 50%.

You may wish to visit the [Financial Aid section of the Graduate School website](#) for more information about graduate assistantships and other types of aid available to graduate students.

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## Systems Design (ENGR) ▼

» <http://www.unh.edu/mechanical-engineering/>

» [Click to view course offerings](#)

*This program is offered in Durham.*

### **Degree Offered: Ph.D**

#### **Ph.D. Systems Design**

The systems design doctoral degree is an interdepartmental program that addresses contemporary engineering and scientific technical problems that can be solved only through the cooperation of a variety of disciplines. Students in systems design can elect either one of two professional directions. The first develops professionals with the technical expertise of a Ph.D. and with the ability to work with and direct groups of people working on large-scale technical projects. The second direction develops engineers with capabilities in the theory and analysis of large-scale complex systems. Concentration in an area of specific individual interest is combined with participation in a larger interdisciplinary project.

The area coordinator is Professor Barry K. Fussell.

#### **Admission Requirements**

Qualified students with bachelor's or master's degrees in engineering, mathematics, or the physical sciences are eligible for admission to the program. Applicants must submit current scores (within five years) from the general test of the Graduate Record Examination (GRE). To be admitted, students must present evidence that they have sufficient background in the area in which they propose to specialize. They must also find a College of Engineering and Physical Sciences (CEPS) faculty member to serve as their adviser.

#### **Degree Requirements**

Following entrance into the program, a guidance committee is appointed for the student by the dean of the Graduate School upon recommendation of the student's area coordinator. This committee assists the student in outlining a program and may specify individual coursework requirements in addition to those required by the area of specialization. The committee also conducts an annual in-depth review of each student's progress and, following substantial completion of a student's coursework, administers the qualifying examination. This committee is also responsible for administering the language examination and/or research-tool proficiency requirements. Coursework and language requirements should normally be completed by the end of the second year of full-time graduate study and must be completed before the student can be advanced to candidacy. Typically, at least 13 courses beyond the Bachelor of Science degree are required.

Upon the successful completion of the qualifying examination and other proficiency requirements, the student is advanced to candidacy and, upon the recommendation of the student's area coordinator, a doctoral committee is appointed by the dean of the Graduate School. The doctoral committee conducts an annual review of the student's progress, supervises, and approves the doctoral dissertation, and administers the final dissertation defense.

To obtain a Ph.D. degree, a student must meet all of the general requirements as stated under academic regulations and degree requirements of the Graduate School. Students are normally expected to take coursework equivalent to two full-time academic years beyond the baccalaureate and to complete a dissertation on original technical research that will require at least one additional year of full-time study.

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## Zoology (ZOOL) ▼

» <http://colsa.unh.edu/dbs>

» [Click to view course offerings](#)

**Note: Effective Spring 2016 admission to the Master of Science and PhD degrees in Zoology has been suspended.**

## **Admission Requirements**

Applicants ordinarily must have completed an undergraduate major in biology or zoology. A basic array of courses including general biology, development, general ecology, genetics, morphology, and physiology is normally required. Additionally, organic chemistry and a semester each of calculus and physics are necessary. Applicants who are deficient in any of these requirements may be admitted to graduate status but may be required to remedy their deficiencies by taking courses that do not give graduate credit. Applicants must submit current scores (within five years) from the general test of the Graduate Record Examination (GRE).

## **Degree Requirements**

### **M.S. Degree Requirements**

Students plan a program of study (minimum of 30 credits) in conjunction with a faculty advisory committee. Students complete a thesis of 6 to 10 credits that is acceptable to the thesis-examining committee. Prior to the receipt of the master's degree, all candidates must pass a thesis defense, which will include questions covering general knowledge in zoology in addition to specific questions relevant to the student's research at UNH.

### **Ph.D. Degree Requirements**

Students plan a program of study in conjunction with a faculty guidance committee. The student will present to the committee a research proposal in which the soundness, originality, and feasibility of the investigative ideas are clearly revealed, and which, when approved, will serve as the basis of the doctoral dissertation. After the approval of the proposal, students who wish to be admitted to doctoral candidacy must demonstrate, in a qualifying examination, a broad basic knowledge of their major and minor fields and their ability to carry out basic research in zoology. All doctoral candidates are required to demonstrate proficiency in a foreign language. All students must complete an original dissertation project, present the results at a public seminar, and pass an oral defense consisting of questions put forth by members of the dissertation committee.

## **Teaching Experience**

All graduate students are encouraged to obtain appropriate teaching experience, preferably as a teaching assistant.

## **Research and Facilities**

The zoology graduate program is enhanced by courses and research in other biological science departments and institutes at the University. These include the School for Marine Science and Ocean Engineering and its associated programs: N.H. Sea Grant Program; Center for Collaborative Science; the Center of Excellence in Coastal Ocean Observation and Analysis (COOA); the Institute for the Study of Earth, Oceans, and Space (EOS); UNH Center for Coastal and Ocean Mapping (CCOM); the Joint Hydrographic Center; and the Ocean Processes Analysis Laboratory (OPAL). There are five marine laboratories: Jackson Estuarine Lab, Judd Gregg Marine Research Complex, Anadromous Fish and Aquatic Invertebrate Research Lab (AFAIR), the Aquaculture Research Center (ARC), and Shoals Marine Lab (SML).

In addition, the Center for Freshwater Biology (CFB) jointly administers (with the UNH Cooperative Extension) the Lakes Lay Monitoring Program, which is dedicated to the preservation and sound management of lakes through citizen-based monitoring and research. The Hubbard Center for Genomic Studies provides training and research in comparative and environmental genomics, with a special emphasis on novel model species. It provides expertise in constructing DNA libraries, DNA sequencing, fragment analysis, and the analysis of gene expression.

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## Graduate Course Catalog 2016-2017

### Admission and Registration ▼

» <http://www.gradschool.unh.edu/>

« [Admission and Registration](#)

In this section, you'll find details regarding the University's admission and course registration process. Please contact us at the Graduate School or at the Registrar's Office if you need further clarification. We will be happy to answer your questions regarding University procedures and policy.

### Applying for Admission

Persons holding a baccalaureate degree from an accredited college or university may apply for admission to the Graduate School. Admission is both limited and competitive and is based solely upon academic qualifications and potential of the individual.

All application materials become part of the permanent records of the University of New Hampshire and will not be returned. Access to this material is limited under the Family Rights and Privacy Act of 1974. Applicants who are not admitted, or who are admitted and do not register in the Graduate School, do not have access to their application files. Materials received as part of the application process will not be duplicated for personal use by the applicant or forwarded to a third party. Materials received from applicants who do not complete their application, who are not admitted, or who are admitted and do not register are held for two years before being destroyed.

Application procedures, including deadlines and program-specific requirements, are available at the Graduate School website, <http://www.gradschool.unh.edu>.

### Applicants from Foreign Countries

All applicants from non-English-speaking countries must, in addition to all of the above, provide Test of English as a Foreign Language (TOEFL) scores. A minimum TOEFL score of 550 paper-based or 80 Internet-based is required for admission. TOEFL scores are valid for only two years. The International English Language Testing System (IELTS) may be accepted on a case-by-case basis. A financial declaration on official University forms is also required should you be admitted. A four-year baccalaureate degree is normally the minimum academic certification required for admission.

Applications from residents of foreign countries will be considered only for regular full-time admission.

### Application Deadlines

Application deadlines for admission and financial aid vary by program. These are updated on an annual basis and may be found on the Graduate School website.

International applicants who are not currently residing in the United States will be considered for admission for the fall session only and must have their applications completed by April 1. International applicants currently residing in the United States should have their applications completed at least four months prior to the session for which they are applying.

### Incomplete Applications

Applications that remain incomplete after the first day of classes of the term for which admission was desired will be placed in an inactive status. A written request is required to reactivate an application.

### Application Review

Once an application is complete, it is reviewed by an admissions committee of graduate faculty members, which makes recommendations to the Graduate School. The Graduate School will review these recommendations and make the final

decision. While applicants with bachelor's degrees may apply directly to certain doctoral programs, the Graduate School also reserves the right to offer applicants admission at the master's degree level in its place.

## **Admission Categories**

Official offers of admission from the Graduate School are made for a specific term and year in one of the following categories: regular, provisional, or conditional. Applicants who are in the final year of an undergraduate or, in some cases, a graduate degree program are contingent upon the successful completion of that degree program. An official final transcript showing grades and the awarding of the degree must be received by the Graduate School before the student may enroll for the graduate program.

### **Regular Admission**

Regular admission may be offered to applicants whose academic records and supporting documents indicate that they are fully qualified to undertake graduate study in their chosen fields.

### **Provisional Admission**

Provisional admission may be offered to applicants whose academic records and supporting documents indicate that they are qualified to undertake graduate study, but whose undergraduate preparation was not in the intended field of graduate study. Applicants offered provisional admission must meet the specific criteria, usually undergraduate coursework, stated at the time of their admission, before being changed to regular graduate student status.

### **Conditional Admission**

Conditional admission may be offered to applicants whose academic records indicate deficiencies but suggest some promise of success in graduate study. Students offered conditional admission must meet the specific requirements stated at the time of their admission in order to remain in the Graduate School. Conditionally admitted students are not eligible for assistantships and scholarships offered through the Graduate School until the conditional status is removed.

### **Deferred Admission**

Applicants who cannot enroll in the term for which admission was offered may request to have their admission deferred for up to one year. Such requests must be in writing and will be considered only once. Because enrollments are limited and competition for admission may vary from year to year, such requests may not be granted. Applicants who have received approved deferment of their admission cannot register for graduate coursework at the University during the period of deferment.

## **Accelerated Master's--University of New Hampshire Seniors**

Qualified senior students at the University of New Hampshire may be admitted to the Graduate School provided they have followed normal application procedures; they must have been admitted for the semester in which they wish to enroll in courses for graduate credit. A 3.20 cumulative grade-point average is normally required to be considered for admission to the accelerated master's program.

Such seniors are normally admitted prior to the start of their last undergraduate semester, but may be eligible to apply for admission to the first semester of their senior year. Seniors who have been admitted under early admission may register for a maximum of 12 credits of graduate-level courses prior to completing their bachelor's degree. Such courses may upon recommendation of the department and approval of the Graduate School count toward both a bachelor's and master's degree.

When seniors admitted to the accelerated master's program have registered for graduate courses, they must maintain a grade-point average of 3.20, complete their undergraduate degree as planned, and pass graduate courses taken for credit with a grade of B- or better. If these conditions are not met, admission is withdrawn.

Not all graduate programs participate; each program's faculty retain discretion regarding whether their program admits students under the accelerated master's program, as well as the maximum number of graduate credits permitted (not exceeding 12; e.g., some programs will accept one course, others two). Applicants are strongly encouraged to meet with the graduate coordinator in the program's faculty to discuss specifics.

Dual-credit forms must be completed and approved by the dean of the Graduate School at the beginning of the semester for which dual credit is sought.

## **Additional Information**

## **Non Degree Students**

Individuals holding baccalaureate degrees may register for graduate courses through Continuing Education, or through the Center for Graduate and Professional Studies at the University of New Hampshire in Manchester. These individuals are designated as "non degree students." Non degree students are not required to file an application for admission to the Graduate School and are not candidates for a graduate degree. Non degree students are not normally permitted to register as full-time students (i.e., 9 or more credits). Please note the policy on transfer of credits (internal and external) in academic regulations and degree requirements.

## **Applicants Not Admitted**

Applicants who are denied admission may have their applications reconsidered only if they furnish significant additional material that was not available at the time of the original decision, such as evidence of further academic achievement or more recent and significantly improved GRE or GMAT scores. Reapplication is not encouraged.

## **Registration**

### **Academic Year**

Registration information and the Time and Room Schedule are available at <http://unhinfo.unh.edu/registrar/timeroom/timeandroom.html>.

### **Continuous Registration Policy**

Unless a leave of absence is granted, graduate students are required to maintain continuous enrollment each semester of the academic year until their degree is formally awarded by registering for course credits, research, or continuing enrollment.

Master's students must enroll for course credits, thesis credits, Master's Continuing Research (GRAD 900), or Continuing Enrollment (GRAD 800).

Ed.S. students must enroll for course credits or Continuing Enrollment (GRAD 800).

Pre-candidacy doctoral students must enroll for course credits, Doctoral Research (999), or Continuing Enrollment (GRAD 800).

All doctoral candidates must register for Doctoral Research (999) each semester after advancement to candidacy until their degree is conferred, even if the minimum requirement (two semesters) has been met.

Students enrolled in summer-only programs (currently, Math M.S.T., English M.S.T., and College Teaching M.S.T.) are required to enroll in course credit or Continuing Enrollment (GRAD 800) each summer until their degree is formally awarded. Students who do not maintain continuous enrollment will have their degree status discontinued and will need to petition for reinstatement or readmission in order to return to their program.

### **Master's Continuing Research (Grad 900--Full-time Status, 0 credits)**

Master's students who have completed all course requirements and have previously registered for the maximum number of thesis or project credits and are in residence completing their master's program must register for Master's Continuing Research (Grad 900).

### **Continuing Enrollment (GRAD 800)**

All continuing graduate students who are not enrolled for course credits, thesis credits, Doctoral Research (999), or Master's Continuing Research (GRAD 900), and are not in residence, are required to register for GRAD 800 each semester of the academic year (or each summer for students in Math M.S.T, English M.S.T programs, and College Teaching M.S.T.). Students registered for GRAD 800 are considered part-time, 0 credits. New students are not eligible to enroll in GRAD 800.

### **Degree Status Discontinued**

Students who do not formally withdraw and do not register and pay for course credits, research, or continuing enrollment by the appropriate registration deadline, or do not return from an approved leave of absence, will have their degree status discontinued. Students are notified by the Graduate School when this administrative action is taken and are required to apply for readmission or reinstatement if they subsequently desire to resume their academic program.

### **Reinstatement**

Students who have their degree status discontinued for failing to maintain continuous enrollment may petition the Graduate School for reinstatement as long as the term that the degree status was discontinued has not ended. Such a petition requires a reinstatement fee, plus payment of current semester charges and any late fees that may have accrued. If the term in which the student's degree status was discontinued has ended, the student must then petition the Graduate School for readmission. Both forms can be found on the [Graduate School's forms page](#).

### **Full-Time Students**

Graduate students registered for 9 or more credits, Master's Continuing Research (Grad 900), or Doctoral Research (999) are classified as full-time students. Students holding assistantship appointments are also considered full time and must register for a minimum of 6 credits, Master's Continuing Research (Grad 900), or Doctoral Research (999) each semester.

### **Three-Quarter-Time Students**

Graduate students not on an assistantship and registered for 7 or 8 credits are classified as three-quarter-time students.

### **Half-Time Students**

Graduate students not on an assistantship and registered for 5 or 6 credits are classified as half-time students.

### **Maximum Load**

The maximum graduate load allowed is 16 credits (12 credits for a student on a full assistantship). Only under unusual circumstances will a student be allowed to exceed these limits, and then only with the recommendation of the student's adviser and graduate program coordinator and the approval of the dean of the Graduate School.

### **Dropping and Adding Courses**

Graduate students may add or drop courses in accordance with the procedures and deadlines published by the Registrar's Office at [www.unh.edu/registrar](http://www.unh.edu/registrar).

### **Auditing Courses**

A graduate student may, with the approval of his or her adviser and the faculty member concerned, audit courses. The deadline for requesting an audit is listed on the Registrar's calendar. Subsequent requests for change to audit require a petition form and must be approved by the course faculty member, the student's adviser, graduate program coordinator, and the dean of the Graduate School.

### **Change of Name or Address**

It is the responsibility of the student to complete a change of name or address form whenever a change is made. Change of name/address forms can be found at <http://www.unh.edu/registrar/regforms/registrarforms.html>. Students are also advised that their UNH e-mail address is the official means of electronic communication with UNH. Billing, registration notices, reminders, as well as the majority of correspondence from the Graduate School will be communicated through the UNH e-mail account.

### **Summer Session**

Although many graduate-level courses are offered during the summer session, the University does not guarantee that any particular course will be offered. The availability of individual faculty members to supervise research or to participate in qualifying examinations and final examinations or defenses during the summer session varies from year to year.

Course information and registration materials may be obtained at [www.learn.unh.edu](http://www.learn.unh.edu).

### **Maximum Load**

The maximum graduate load allowed is 12 credits for the entire summer session. A student will be allowed to exceed this limit only by petition with the recommendation of the student's adviser, graduate program coordinator, and the approval of the dean of the Graduate School.

### **Student Load for Veterans Benefits**

Graduate students eligible for VA benefits during the summer receive benefits according to the following schedule of average credit registrations: 1/2 credit/week or more = full time; 3/8 credit/week or more = 3/4 time; 1/4 credit/week or more = 1/2 time; less than 1/4 credit/week = tuition and fees only.

## **Nonregistration**

### **Leave of Absence**

Students who, because of extenuating circumstances, are unable to pursue their graduate program may request a leave of absence for a maximum of one calendar year. Such circumstances may include medical reasons, military obligation, family emergencies, or hardship. The procedure for an approved leave of absence requires that students submit a request, available at [www.gradschool.unh.edu/forms.html](http://www.gradschool.unh.edu/forms.html), along with appropriate documentation, **prior** to the term for which the leave is requested. The dean of the Graduate School, upon recommendation of the student's adviser and graduate program coordinator, will review the request. If the request for a leave is granted, the time limit for completion of the student's program will be extended appropriately. Students on an approved leave of absence are exempt from paying the continuing enrollment fee. Graduate students who do not return from a leave of absence in the allotted time frame will have their degree status discontinued.

### **Withdrawal**

A student may withdraw from the Graduate School during any semester by obtaining a withdrawal form from the Graduate School. This form should be signed by the student's adviser and the dean of the Graduate School. Students who formally withdraw are required to apply for readmission if they subsequently desire to resume their academic program. Students who are applying for readmission are required to pay an application fee plus, if readmitted, any accumulated continuing enrollment fees for the period during which they have been inactive. Students are not guaranteed readmission and may be evaluated in competition with current applicants to the program.

## **Administrative Separation for Reasons of Health-Related Behaviors**

The dean of students, or the associate dean of the Graduate School, or designee, in consultation with Health Services, and/or Counseling Center, Disability Student Services, Behavioral Intervention Team, and Affirmative Action and Equity Office (ADA Compliance) may temporarily separate a student for reasons relating to seriously impaired mental/physical health when such student's health-related behaviors (1) pose a significant risk of substantial harm to health, safety, or property of him or herself or other members of the University community, (2) and/or when the student's health-related behaviors significantly disrupt the ability of other University community members to fulfill the University's mission.

Examples of such behaviors include but are not limited to (a) continuing disruptive behaviors after being told by a University official to stop, (b) behaviors that indicate the student may be out of touch with reality or unaware of the consequences or effects of his or her behaviors, and (c) threat of or harm to self or others.

Administrative withdrawal is not intended to be a substitute for other procedures as found in the Code of Conduct or Academic Policies. Such action may not be used as a means of excluding qualified students with disabilities. The dean of students or associate dean of the Graduate School or designee shall provide the student with a written statement of reasons for the temporary separation and invite the student to meet.

The purpose of this meeting shall be to provide the student with an opportunity to challenge the separation and request reconsideration. The dean of students or associate dean of the Graduate School or designee may require documentation of readiness to return from a licensed attending medical authority and/or licensed psychologist, and consult with the appropriate University official(s) before lifting the separation. The student may be accompanied at the meeting by a member of the University community.

The student must schedule a meeting within ten (10) calendar days of receiving the written statement. If the student fails to request a meeting with the dean of students or associate dean of the Graduate School within ten (10) calendar days of beginning the temporary separation, or if the temporary separation is upheld either at the meeting and the student fails to appeal, or upheld upon appeal, the temporary separation shall be changed to an administrative withdrawal.

Within three (3) calendar days of the conclusion of this meeting the dean of students or associate dean of the Graduate School shall send a letter to the student, informing him/her of the outcome. The student may appeal the determination to the vice president for student and academic services, the dean of the Graduate School, or his/her designee. The appeal request must be received by the vice president for student and academic services by no later than five (5) calendar days after the student receives the letter from the dean of students or associate dean of the Graduate School.

Students who withdraw for health reasons, whether voluntarily or are separated by administrative action, must apply for readmission through the Office of Undergraduate Admissions or the Graduate School. Readmission shall be contingent upon receipt by the appropriate director(s) or their agents, of documentation regarding readiness to return from a licensed attending medical authority, and/or licensed psychologist; to the extent the withdrawal was for a condition that requires ongoing treatment, readmission may also be contingent upon documentation of the prescribed treatment course and the plan for implementation thereof. Readmission may also include a personal interview with either the vice president or dean of the Graduate School or his/her designee.

For graduate students, the dean of the Graduate School will make the final decision based on the information received, in consultation with the appropriate University official(s). (*University Senate, April 26, 1976, updated by the dean of students, June 2009.*)

## **Readmission**

Students who withdraw, who have their degree status discontinued, or whose time limit has expired and subsequently desire to resume their academic program, are required to apply for readmission. Readmission forms are available at [www.gradschool.unh.edu/forms.html](http://www.gradschool.unh.edu/forms.html). Students who are applying for readmission are required to pay an application fee plus, if readmitted, any accumulated continuing enrollment fees for the period during which they have been inactive. Students are not guaranteed readmission and may be evaluated in competition with current applicants to the program.

## **Change in Degree**

Students who wish to pursue a degree program other than the one for which admission was originally granted must complete the appropriate application for a change in degree. This includes students enrolled in UNH master's programs who intend to pursue the Ph.D. in the same department in which they were admitted for the master's degree. These forms are available at [www.gradschool.unh.edu/forms.html](http://www.gradschool.unh.edu/forms.html). The dean of the Graduate School will notify the student of the decision after consulting with the appropriate departments.

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## Graduate Course Catalog 2016-2017

### Fees and Financial Support ▼

» <http://www.gradschool.unh.edu/>

« [Fees and Financial Support](#)

There are many opportunities for financial aid. To ensure that you will benefit, contact us either at the Graduate School or at the Financial Aid Office to talk about what opportunities may be available to you. You can find more details at <http://financialaid.unh.edu>.

### Residency

Each graduate student is classified as a resident or nonresident for tuition purposes at the time of admission to the University. The decision, made by the Graduate School, is based upon information furnished by the student's application and any other relevant information. Nonresident undergraduates continuing directly to the Graduate School will be classified as nonresidents.

All applicants claiming New Hampshire residency are required to have been legally domiciled in New Hampshire continuously for at least twelve months immediately prior to registering for the term for which in-state status is claimed.

Students admitted from states other than New Hampshire or from foreign countries are considered nonresident throughout their entire attendance at the University unless they shall have acquired bona fide domicile in New Hampshire. Changes in residency for enrolled students as well as appeals are reviewed by the Registrar's Office and will only occur if the student can clearly establish that his or her residence in New Hampshire is for some purpose other than the temporary one of obtaining an education at the University.

The burden of proof in all cases is upon the applicant. In all cases, the University reserves the right to make the final decision as to resident status for tuition purposes. The University rules governing tuition rates are fully set forth in the application for admission package; all students are bound by them.

### New England Regional Student Program

The University of New Hampshire participates in the New England Regional Student Program administered by the New England Board of Higher Education. Under this program, admitted graduate students from New England may qualify for regional tuition rates (New Hampshire resident tuition, plus 50 percent) if the program to which they are admitted is one that is not available at any of their home state/public institutions. Inquiries and requests for further information may be directed to the Graduate School or to the New England Board of Higher Education, <http://www.nebhe.org>. This tuition rate does not apply to students who are eligible for New Hampshire resident tuition rates.

### Tuition and Fees

Tuition and fees are established by a vote of the Board of Trustees. Approval normally occurs between April and July. The current academic year rates are published annually on the [University's website](#). Mandatory fees for all students include a Memorial Union fee, which funds the personnel, programs, and maintenance of the building; a health and counseling fee, which funds University Health Services and the Counseling Center; a recreation fee, which funds recreational sports facilities; a technology fee, which funds technology services and support for students and faculty; and a transportation fee, which funds transportation services on the Durham campus. The services and facilities are available to all, and students are required to pay all mandatory fees charged regardless of actual usage of the programs and services. Mandatory fee charges are based on registration status: full- or part-time fees, depending on number of credit hours. Students enrolled in predesignated evening-only programs do not pay the health and counseling fee. Students enrolled in 4 credits or less pay the technology fee only. Please see the [Student Rights, Rules, & Responsibilities Handbook](#) section 11.2 for more information about Mandatory Fees.

Tuition and fees are due by the published deadline, and students are not considered registered until they have paid. UNH no longer sends bills through the mail; students receive bills through Webcat, a part of MyUNH (Blackboard), the student portal. E-mails are sent to students' UNH-assigned e-mail address when new bills are posted. Payment may be made online

or mailed; check, credit card, cash, or wire is accepted. A 2.75 percent service charge will be added to credit card transactions. Late fees may be assessed on balances remaining unpaid by published due dates.

Graduate tuition and fees apply to admitted graduate students enrolling for courses, graduate or undergraduate, at the University during the academic year. Admitted graduate students planning to enroll for UNH courses through weekend or executive programs during the summer session, or through the Graduate School Manchester campus should consult the relevant publications for information regarding tuition and fees.

## **Mandatory Fees**

The University of New Hampshire assesses mandatory fees to support expenses associated with the participation in an academic community. Mandatory fees are defined as fees that all students are assessed as a prerequisite for registration unless specifically exempt. Mandatory fees are assessed because the services made available through such fees benefit the overall educational experience of the students, including academic, co-curricular, health-related, and recreational programs. It is recognized that not all students will use the benefits and privileges made available by fee-supported activities to an equal extent. The services and facilities supported by fees are available to all. The special circumstances of part-time and graduate students are reflected in the University's fee structure.

## **Fee Structure**

Full mandatory fees are assessed to graduate students (registered for 9 or more credits), national student exchange students, doctoral research, and master's continuing research students. Graduate students registered for 5 to 8 credits are assessed one-half of the cost. Students registered for 1 to 4 credits are assessed only the technology fee. Students enrolled in Manchester campus programs pay Manchester mandatory fees. Students enrolled in the UNH School of Law pay the fees associated with that campus. Students enrolled as non-degree full-time special students (12 or more undergraduate credits or 9 or more graduate credits) pay full mandatory fees.

### **The graduate-student mandatory fees include:**

- Memorial Union fee for the use and administration of the student union
- Recreational fee for support of recreational facilities
- Health and counseling fee to provide general health care through University Health Services
- Technology fee to provide electronic tools to students both on and off campus
- Transportation fee to provide student transportation services, including select infrastructure improvements, transit service, pedestrian and bicycle facilities, and ride services
- SHARPP fee to support the University's efforts to address issues of sexual and domestic violence

Students who withdraw or drop to part-time status after classes begin are eligible for a partial refund of fees. (One hundred percent will be refunded until the 2<sup>nd</sup> Friday of the semester, 50 percent after that date and within 30 days, and none thereafter.)

## **Exceptions**

Students enrolled as majors in the Graduate School Manchester campus are assessed the Manchester mandatory fees.

Students participating in a UNH Study Abroad Program or internship outside the immediate geographic area (50-mile radius) for a semester may petition for a waiver of mandatory fees, with the exception of the technology fee. Students taking online courses only and who reside outside the immediate geographic area (50-mile radius) may petition for a waiver of mandatory fees, with the exception of the technology fee. All graduate students are exempt from the student activity fee and athletic fee. Graduate students enrolled in weekend/executive programs on the Durham campus are exempt from mandatory fees except the technology fee.

Graduate students enrolled in predesignated evening-only programs, as approved by the provost and vice president for academic affairs or his/her designee, are exempt from the health services and counseling fees.

Doctoral students who have achieved candidacy may petition for a waiver of the mandatory student fees. A waiver will be granted under the following circumstances:

- The student must be advanced to candidacy and enrolled only in 999 prior to the beginning of classes.
- The student cannot be on an assistantship or fellowship, unless such support covers research that is being conducted out of the geographic area (50 miles).
- The student has recently relocated and/or permanently resides out of the immediate geographic area (50 miles) prior to the beginning of classes. The 50-mile radius may be waived if the student is not receiving University support, has met the one-year residency requirement, is working full time and will only be on campus sporadically to meet with



his or her adviser, or if the student has completed all requirements for the degree prior to the end of the drop/add period (end of the second week).

The student is temporarily out of the region (50 miles) for at least one semester, conducting research related to his or her dissertation.

The student has a family emergency, illness, or has provided the dean of the Graduate School other information to warrant an exception. (Information will be provided with the petition as appropriate.)

Students who meet the above conditions and are within the immediate geographic area must confirm in writing that they will not be using the campus services covered by mandatory fees.

Students must submit petitions each semester to waive fees.

## **Authority**

Any conflicts resulting from this procedure will be adjudicated by the provost and vice president for academic affairs and the vice president for finance and administration or his/her designee.

## **Special Fees**

### **Differential Tuition**

Students majoring in accounting, computer science, economics, and engineering will be charged a tuition differential. Students in these programs who are registered for Doctoral Research (999) or Masters-Continuing Research (GRAD 900) are considered full time and pay the full tuition differential. The current academic year rates are published annually.

### **Continuing Enrollment Fee**

Students registered for Continuing Enrollment (GRAD 800) will pay a continuing enrollment fee. This fee will be waived for students who subsequently register for course credits or research within the semester.

### **Master's Continuing Research Fee**

Master's students registered for Master's Continuing Research (GRAD 900) will pay a continuing research fee plus full mandatory fees.

### **Doctoral Research Fee**

Doctoral students in residence and registered for Doctoral Research (999) will pay a doctoral research fee plus full mandatory fees. Students who register for coursework in addition to Doctoral Research will pay the appropriate additional tuition charges up to the appropriate maximum tuition rate for full-time students. Doctoral candidates not in residence who are conducting their research away from the Durham campus may petition for a waiver of the mandatory fees.

## **Other Charges and Fees**

### **Overload**

Graduate students are charged full tuition plus the appropriate course charge for each credit beyond 16, if registered for more than 16 credits thirty days after the semester has begun. (No refund will be made if a student subsequently drops a course, reducing his or her course load to 16 or fewer credits.) Tuition waivers awarded with assistantships and scholarships do not cover charges for overload.

### **Zero-Credit Seminars**

Seminars for 0 credit are billed as if they were for 1 credit.

### **Audit**

Charges for auditing a course are the same as those for taking it for credit.

### **Late Fees**

A \$25 late registration fee is charged to students who register after the last day scheduled for graduate registration. Late fees are also charged on accounts remaining unpaid by published due dates.

### **Reinstatement Fee**

A reinstatement fee is charged to any student who has his or her degree status discontinued and subsequently petitions to be reinstated during the same semester when the action to discontinue the degree status was taken. This fee will not be waived.

### **Registration Fee**

Part-time students (i.e., those registering for 1 to 8 credits) pay a nonrefundable registration fee.

### **Student Health Benefits Plan**

Health insurance is required as a condition of enrollment for full-time degree students at the University of New Hampshire. Students will have the option of waiving this requirement if they present proof of adequate coverage; alternatively,

students can acquire an affordable health benefits plan sponsored by the University. The Health Services website has information about the University's Student Health Benefits Plan <http://www.unh.edu/health-services/shbp>. Students with F-1 or J-1 visas are required to enroll in the UNH Student Health Benefits plan. They are not eligible to waive coverage.

### **Refunds**

Tuition and mandatory fees are refundable during the academic year in accordance with the calendar published by the Registrar's Office (UNH Academic Calendar). Students receiving federal financial aid will have their refund calculated in accordance with the U.S. Department of Education regulations in effect at the time of their withdrawal. Specific details regarding the regulations are available in the UNH Financial Aid Office.

### **Financial Assistance**

Several forms of financial assistance are available to graduate students through the Graduate School and individual departments, most of which are awarded for an academic year commencing in the fall. To be eligible for any assistance, the student must first be admitted to the Graduate School. In most cases, the application for admission with supporting documents serves as the application for new graduate students for the scholarship and assistantship programs available to them. In other cases, individual departments have their own application forms. Students are advised to contact individual programs for more information about assistantships and scholarships, and any departmental application forms.

## **Scholarships and Fellowships**

### **Graduate Scholarships for Merit**

The Graduate School awards six scholarships annually to recognize the outstanding contributions of both master's and doctoral students for their teaching and scholarship. Availability and criteria for award of these scholarships are announced annually by the Graduate School.

### **Scholarships for Full-Time Students**

Students who are full-time may be granted full- or half-tuition scholarships for the academic year or semester. These awards provide for waiver of tuition and are subject to the maintenance of a high scholastic record in the Graduate School. Application is made to the student's department or program.

### **Graduate Fellowships**

The Graduate School offers a number of fellowships to entering students to assist programs in recruiting a high-quality and diverse student body. Availability and criteria for these fellowships are announced annually by the Graduate School. Students are nominated by their respective program coordinators.

### **Dissertation Fellowships**

Dissertation fellowships for a maximum tenure of one academic year are available on a competitive basis to doctoral students who have been advanced to candidacy. These awards include a stipend and a waiver of the doctoral research and mandatory fees for the period of the award. Application is made to the dean of the Graduate School.

### **Summer Fellowships for Teaching Assistants**

A limited number of summer fellowships are awarded to students who have held graduate assistantships involving teaching during a previous academic year. Application is made to the dean of the Graduate School.

## **Graduate Appointments 2016-17**

The university offers a variety of forms of financial assistance to graduate students in support of their efforts to obtain a graduate degree. Graduate appointments are made to post-baccalaureate students who have been regularly or provisionally admitted to the Graduate School and who have been recommended by the appropriate department or program and approved for appointment by the Graduate School. Appointments are normally for one academic year and may be renewed provided that funds are available and that the student's academic performance, as well as performance in carrying out the responsibilities of the appointment, is satisfactory.

**Graduate Assistants:** Graduate assistants are students who provide instructional or administrative support as specified by the appointing department and are normally supported by university funds.

**Graduate Part-time Lecturers:** Graduate part-time lecturers are students who because of their specific expertise are appointed to teach one or two courses per semester and are normally supported by university funds.

**Graduate Interns/Trainees:** Graduate interns/trainees are students who are assigned to a specific project or subject area to acquire additional learning experiences and are normally supported by external funds.

**Graduate Fellows:** Graduate fellows are students who have been awarded a fellowship normally through an external grant to the University of New Hampshire or directly to the student. Appointment will normally not exceed one fiscal year and may be renewed in accordance with the terms of the fellowship program.

**Graduate Research Assistants:** Graduate research assistants are students who are appointed to conduct research on grants supported by the Agricultural Experiment Station, or external grants and contracts.

**Graduate Supplemental Appointments:** U.S. and permanent resident graduate students on appointment in one of the above categories may petition\* to supplement their regular appointment for up to an average of 10 hours per week when school is in session unless precluded from doing so by the terms of their appointment. F-1 and J-1 students on full assistantships may not accept additional appointments while school is in session. All students, including F-1 and J-1, may supplement their regular appointments for up to 20 hours per week when school is not in session (December-January

Semester Break and March Spring Break). Such appointments may be processed as stipends or hourly. Assistants who serve as TA's during the J-term receive a supplemental appointment if the workload exceeds the 20 hours they are normally expected to work. \*Petition process: All petitions are reviewed by the Dean of the Graduate School. Petitions must provide an explanation of the work associated with the supplemental appointment and a rationale that explains how the additional work will have a positive impact on the student's graduate program and will not negatively impact time to degree. The petition requires input from the student's advisor and Graduate Program Coordinator.

**2 Graduate Stipend Only Appointments:** Graduate stipend only appointments may be made to students during the academic year under one of the above categories. Students on such appointments have responsibilities of less than those of students on regular graduate appointments; have a workload of less than those of students on regular graduate appointments, and receive a lower stipend than students on regular graduate appointments.

**Graduate Hourly Appointments:** Graduate hourly appointments are appointments made to students in support of the instructional, administrative or research activities of the university. Students on such appointments have responsibilities of less than those of students on regular graduate appointments.

**Graduate Summer Appointments:** Graduate summer appointments are appointments made to students during the summer in one of the above categories. Students on summer appointments may work for up to forty hours per week. Graduate students working full time on research or combined teaching and research for the entire summer earn 2/3 of their prior academic year stipend. Appointments for less than the maximum time are prorated. International students (F-1 and J-1) must consult the Office of International Students & Scholars to confirm employment eligibility. Stipends: Level 1 - \$16,640 all masters' students and PhD students with a bachelor's degree who have less than 2 years experience as a GA or RA at UNH; Level 2 - \$17,760 PhD students with a master's degree or PhD students with a bachelor's degree who have 2 years experience as a GA or RA @ UNH; Level 3 - \$19,060 PhD students @ candidacy. Departments may pay a higher base stipend for assistants to meet the recruitment needs of the program. Graduate assistants on a semester appointment receive 1/2 of the AY year rate. Graduate part-time lecturers receive a stipend of no less than the adjunct rate appropriate to their program. Graduate fellows, trainees and interns receive a stipend in accordance with the terms of their award.

**Academic Year Dates:** The academic year payment dates for 16-17 are August 22, 2016 to May 19, 2017. The corresponding semester dates are August 22, 2016 to January 4, 2017; and January 5, 2017 to May 19, 2017. Assistants who are appointed for the full academic year should check with their hiring unit to determine the expectations for working during the semester break.

**Workload:** Students on full assistantships are involved in assistantship activities for twenty hours a week during the academic year. The workload for students on stipend only and hourly appointments is specified at the time of appointment. The workload for students in both of these categories is less than 20 hours per week.

**Registration:** All graduate students holding appointments must be enrolled as students in order to hold an appointment during the academic year. Assistants, fellows or graduate part-time lecturers must register for a minimum of 6 course/thesis credits, Master's Continuing Research or Doctoral Research during each semester in which they hold their appointments. Interns/trainees must register according to terms specified in their contracts. Students holding a stipend only or hourly appointment must register for course/thesis credits (no minimum), Master's Continuing Research, or Doctoral Research. Students registered for Continuing Enrollment (GRAD 800) are not eligible to hold an appointment. Students holding summer appointments have no required enrollment unless specified by their appointment.

**3 Tuition Waivers:** Students appointed as assistants, fellows and graduate part-time lecturers receive tuition waivers in addition to their stipends during the period of their appointment. Waivers will be prorated for students who hold less than a full appointment. Assistants and fellows on AY or spring only appointments receive tuition waivers for the January term. Graduate part-time lecturers receive tuition waivers for the January term only if they are teaching during that term. Students on stipend only and hourly appointments do not receive a waiver. Such students may be eligible for tuition scholarships. Graduate assistants, research assistants and fellows receive tuition waivers for summer courses offered through the Graduate School (GRAD) related to academic programs in College Teaching, Research Ethics and Grant Writing. Summer waivers are prorated for students who had less than a full academic year appointment. Such waivers are provided through the Graduate School. Graduate assistants, research assistants and fellows may receive tuition waivers for summer courses offered outside of the Graduate School if approved by their funding source. Such waivers are provided by the hiring unit. Waivers cover only course work that is directly related to a student's academic program.

**Student Health Benefits Plan (SHBP):** Students appointed as assistants, fellows and graduate part-time lecturers for the full academic year receive a waiver for the university's Student Health Benefits Plan (SHBP) during the period of their appointment. Students on a fall only appointment and continuing in the graduate school for the spring semester full time receive a waiver for the SHBP for the fall and will be responsible for the spring portion of the plan costs. Students on a fall only appointment and continuing in the graduate school for the spring semester on a part time basis receive a waiver for the SHBP for the fall, have the option of continuing on the plan for the spring, and will be responsible for the spring portion of the plan costs. Students on a spring only appointment will receive a waiver for the SHBP for the spring.

**Mandatory Fees:** Students appointed as assistants, fellows and lecturers receive a fee waiver for the technology fee during the period of their appointment. Course fees are also covered by the waiver. The Health Services and Counseling fee, the Memorial Union fee, the Student Recreation fee and the Transportation fee are not covered by waivers, although scholarships maybe awarded to individual students to cover these fees. FICA taxes will generally be withheld from wages paid to any graduate student registered for less than 1/2 time (less than 5 credits per semester during the academic year; or less than 3 credits per session in the summer). Note: Students registered for Doctoral Research (999) or Master's Continuing Research (GRAD 900) are full-time and will not have FICA taxes withheld. In summer students enrolled for 3 or more credits of "899" or "independent study" will generally not have FICA withheld. Federal income taxes will be withheld from wages paid to graduate students based on information supplied to USNH Payroll on IRS Form W-4. The value of the SHBP waiver is considered a scholarship and may be reportable to the IRS and subject to tax withholding for foreign students. Both wages and scholarships may be exempt from withholding if the student is from a foreign country with tax treaty provisions that exempt these payments. The

appropriate IRS Form 8233 or W-8BEN must be on file in USNH Payroll in order for a foreign student to claim these exemptions. Criminal background checks are conducted for all graduate students appointed as a teaching assistant (TA), research assistant (RA), graduate assistant (GA) or graduate part time lecturer, 4 graduate fellow or graduate intern/trainee. Graduate students on stipend only or hourly appointments may also be required to undergo a background check depending on the nature of their appointment. These investigations are mandated by University policy requiring a preemployment background review for all appointees who commence their duties after July 1, 2008. A standard background review consists of a criminal history review, sex and violent offender registry review, social security trace and verification; and, if required by the nature of the appointment, a Department of Motor Vehicle record search. International students whose visas and/or authorization to work in the United States were obtained after the Patriot Act was implemented on October 12, 2001, are exempt from a criminal history check.

**REAPPOINTMENT, NON-REAPPOINTMENT AND TERMINATION**

**Reappointment:** A graduate student who holds a working appointment directly connected with his/her graduate studies may be reappointed for an additional period, provided that funds are available and that the student's academic performance, as well as performance in carrying out the responsibilities of the appointment is satisfactory, and the student's status as a graduate student is maintained.

**Non-reappointment:** The University, for any reason, may elect not to renew a graduate student's working appointment at the end of the appointment period. No advance notice nor any reason need be given to the graduate student in the case of non-reappointment, and the appeal procedure is not available.

**Termination:** A hiring unit may recommend to the Graduate School that a graduate student be terminated from a working appointment prior to the end of the appointment. The Associate Dean of the Graduate School will act on this recommendation. A student who is terminated is entitled to a written statement of the reasons for the termination from the hiring unit. A student who is terminated may initiate an appeal except when the termination is due to the loss of funding for the position; or the termination is due to either a voluntary or involuntary loss of graduate student status. If the graduate student is eligible, and does initiate an appeal using the following procedure, s/he may be placed on leave of absence without pay during the period of time involved in processing the appeal. If the case is found in favor of the student, "back pay" will be awarded.

**Step 1:** The student should request that the hiring unit making the original recommendation reconsider the decision. The student's request should be written and should contain any information that the student feels warrants a reconsideration of the decision. A copy of the request should be sent to the Graduate Dean. As soon as possible after receiving this request, the hiring unit will reconsider the decision and notify the student and the Graduate Dean of the results of the deliberations in writing.

**Step 2:** If the student is not satisfied with the decision reached in Step 1, s/he may request that the Graduate Dean review the decision. The student's request should be in writing and must stipulate the reasons for his/her dissatisfaction with the decision reached in Step 1. The Step 2 appeal will be heard by the Student Affairs Committee of the Graduate Council, unless the student requests that the Dean or the Dean's designee hear the appeal. When the appeal is heard by the Dean's designee or the Student Affairs Committee, a recommendation is made to the Dean, who will render a decision. The Dean's decision will be communicated in writing to the student, the hiring unit and the hiring unit's College Dean, Director or Vice-President. rev. 6-15

## **Federal Financial Aid**

Graduate students who are enrolled in a degree program at least half time (5 or more credits per semester) and are a U.S citizen or an eligible non-citizen may be considered for federal financial aid. Graduate students are reviewed for loans and work study. There are no federal or University grants or scholarships awarded to graduate students by the UNH Financial Aid Office.

To apply for federal financial aid you must complete the Free Application for Federal Student Aid (FAFSA). You can complete the application on-line at [www.fafsa.ed.gov](http://www.fafsa.ed.gov). The UNH priority deadline for applying for financial aid is March 1. This is the date by which the FAFSA must be received by the federal processor. However, students applying after March 1 will still be considered for the Federal Direct Loan, which is not subject to the priority deadline.

Be aware that the Financial Aid Office will make their offer of aid based on your full-time enrollment. If you will be enrolled for less than 9 credits or pay reduced tuition in either semester, your aid package may be adjusted. If you are not planning to be full time, you should notify the Financial Aid Office as soon as you can. Any time you change your enrollment status, receive a scholarship, tuition waiver or other resource, or correct and/or change the information on the FAFSA, an aid adjustment may result.

### **Types of aid available:**

**Federal College Work Study** utilizes federal funds to provide employment opportunities to graduate students who file on-time and demonstrate financial need.

The **Federal Unsubsidized Direct Loan** is available to graduate students regardless of financial need.

**Federal Direct Graduate PLUS Loan** is a loan in the student's name for graduate and professional studies. In order for a graduate or professional student to receive a Federal Direct PLUS Loan they must first file the Free Application for Federal Student Aid (FAFSA). Students apply for the Federal Direct PLUS Loan at [www.studentloans.gov](http://www.studentloans.gov). Approval for the Direct PLUS Loan is based on good credit and the student being enrolled at least half-time in a graduate or professional degree program.

Please feel free to visit the UNH Financial Aid website (<http://www.unh.edu/financialaid/>) for further information.

## **Veterans Benefits**

Military servicepersons, veterans, and their dependents should investigate their eligibility for veteran's benefit payments. Questions may be addressed to any local Veterans Administration office; the VA Education Benefits toll-free number, 888-442-4551 (888-GIBill1); the VA website at [www.gibill.va.gov](http://www.gibill.va.gov); or the UNH veterans coordinator, Registrar's Office at (603) 862-1595, or via email [UNH.Veterans@unh.edu](mailto:UNH.Veterans@unh.edu).

## **Satisfactory Academic Progress**

Satisfactory progress in a course of study must be maintained by all students who receive federal financial aid. The current standards for satisfactory academic progress are available upon request from the [UNH Financial Aid Office](#).

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## Graduate Course Catalog 2016-2017

### Research and Scholarship ▼

» <http://www.gradschool.unh.edu/>

« [Research and Scholarship](#)

The University is a land-, sea-, and space-grant institution and is ranked among the top 125 research universities. In recent years, graduate students at the University have been awarded a number of highly competitive fellowships from EPA, Ford, Fulbright, Merck, NASA, NIH, NOAA, and NSF.

The University's research and scholarly activities range from highly specialized investigations in the physical and biological sciences to broad interdisciplinary studies.

Graduate students are intimately involved in these activities and are expected to be familiar with the policies and procedures that govern their research activities at the University. For more information, visit the [Compliance and Safety pages](#) of the Research Office website.

### Research at UNH

<http://www.unh.edu/research/>

For an overview of all research news and activities at the University, including resources for graduate students, visit this [website](#).

### Centers and Institutes

<http://www.unh.edu/research/centers-institutes>

Research and educational activities are conducted not only in individual departments but also in multidisciplinary research centers and institutes. Visit [this website](#) for an annotated list of University centers and institutes, which includes links to their individual sites.

### Office of the Senior Vice Provost for Research

[www.unh.edu/research](http://www.unh.edu/research)

The Office of the Senior Vice Provost for Research (Research Office) provides leadership and services to support UNH faculty, students, and staff in their research, scholarship, and creative activities; facilitates cooperation between UNH and the business community; and communicates and promotes the breadth and depth of UNH research and discovery and its resulting impacts both within and beyond the University. Research is conducted according to ethical principles provided by professional associations and by federal regulations and guidelines. Accordingly, UNH has institutional policies governing the conduct of research and scholarly activities, including but not limited to, the use of animal subjects, human subjects, hazardous materials, misconduct, and financial conflict of interest.

The University prides itself on extensive research endeavors and the involvement of graduate students in research projects. The University, therefore, has an obligation to teach and actively promote integrity in research and scholarship. As a graduate student here, it is your responsibility to be familiar with University policies that govern your research activities at the University and to comply with all requirements. For more information, visit the [Compliance and Safety pages](#) of the Research Office website.

### Office for Research and Partnerships and Commercialization

<https://innovation.unh.edu/>

UNHInnovation advocates for, manages, and promotes UNH's intellectual property; promotes partnerships between UNH and the business community; and is responsible for licensing UNH technologies and creating start-up companies based on

innovations created at UNH. UNHInnovation also hosts the Interoperability Laboratory and the NH Innovation Research Center.

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## Graduate Course Catalog 2016-2017

### Academic and Support Services ▼

» <http://www.gradschool.unh.edu/>

« [Academic and Support Services](#)

### Library

[www.library.unh.edu](http://www.library.unh.edu)

The UNH Library consists of the main Dimond Library and three branch libraries specializing in chemistry (Parsons Hall), physics (DeMeritt Hall), and computer science, mathematics, and engineering (Kingsbury Hall) and a natural science resource center located on Level Two in Dimond. All science libraries have reserve materials, reference and circulating collections, periodicals, and electronic resources specific to their fields.

The Dimond Library offers seating for 1,200; three grand (quiet study) reading rooms; Zeke's Café; and the Dimond Academic Commons (DAC), a "one-stop" shop for information needs including reference assistance, IT help, rich media equipment (with video and audio equipment to borrow), collaborative work spaces, 149 computers including 125 workstations and 24 laptops that can be borrowed for use in the Library. High-speed Wi-Fi is available throughout the building. Group study rooms can be reserved for groups of four to thirty.

In addition to more than a million volumes and access to 50,000 periodical subscriptions, the library has extensive collections of government documents, maps, sound recordings, CDs, videos, DVDs, and a Special Collections and Archives section with rare books, manuscripts, and University publications and papers. The UNH Library offers extensive electronic resources including Refworks, e-books, digital collections, indexes in many subject areas, statistical data sets, and databases supplying full-text periodical and newspaper articles. Library faculty and staff provide expert service to people seeking information or research assistance. Graduate students have additional privileges including access to recently renovated graduate carrels in room 441 on Level Four (please visit the Circulation Desk for the code) and extended borrowing. Graduate carrels have soft seating, individual study carrels, lockers, and Wi-Fi.

Through the UNH Library's membership in the Boston Library Consortium (BLC), UNH community members are entitled to visit any of the other 17 research institutions (including MIT, Tufts, Williams, and Wellesley) or request material through a virtual catalog from a combined collection totaling more than 34 million volumes. Requestors will be notified by e-mail when the material arrives. In addition, journal articles and books not available on site or through the BLC can be delivered from libraries worldwide through interlibrary loan. Most journal articles are received within 24 hours. The UNH Library is a member of the Boston Museum of Fine Arts; free passes are available at the Circulation Desk.

For more information on Dimond and the science libraries, visit [www.library.unh.edu](http://www.library.unh.edu).

### Information Technology (IT)

### Information Technology (IT)

### UNH Information Technology (IT)

[www.it.unh.edu](http://www.it.unh.edu)

**Computer Access.** UNH has approximately 200 public computers in 4 Student Computing Clusters and throughout Dimond Library. Many department-owned computer labs also exist. The public Clusters provide a suite of productivity and design software, access to the Internet, many course-specific software applications, flat-bed scanners, and personal network storage for documents. Spaces specifically designed for group work are available. Paid printing services allow users to print in both black and color. For information and cluster hours, visit [clusters.unh.edu](http://clusters.unh.edu).



**Parker Media Lab.** The Parker Media Lab in Dimond Library is available for all students to use. The lab includes high-end audio and video editing workstations along with digital editing software and dedicated staff to assist students with course-related and personal projects. The lab also offers a range of camcorders, audio recorders, and associated equipment for students to borrow. Details can be found at [parkerlab.unh.edu](http://parkerlab.unh.edu).

**Computer Store.** The UNH Computer Store offers UNH students, faculty, and staff access to the highest quality, standardized computer products and services, coupled with expert advice and excellent customer service. The store carries Apple and Dell notebook and desktop computers; iPads and iPods; laser and ink jet printers and cartridges; heavily discounted software, including Microsoft Office and Adobe Creative Suites; and a variety of other supplies and peripherals at educational pricing. Speak to a live staff member at (603) 862-1328 or visit online at [computerstore.unh.edu](http://computerstore.unh.edu). The UNH Computer Store is conveniently located on Level 2 of the MUB, across from the student mailboxes.

**Computer Repair.** UNH Computer Repair Services provides UNH students, faculty, and staff warranty service and computer maintenance and repair. A complete list of services is available online at <http://tps.unh.edu/crs>. The Computer Repair Service Center is conveniently located next to the Computer Store at the MUB, Level 2, East, across from the student mailboxes. For more information, call (603) 862-4242.

**Computer Training.** Each semester, UNH IT courses are offered on a variety of topics. For more information, call (603) 862-4242.

**Technology Support.** UNH IT provides UNH students, faculty, and staff with support via telephone (862-4242), in person (Academic Technology Support Center, Dimond Library, Third Floor [Main Level]), and chat (through Blackboard and <https://itsupport.unh.edu/itchat>) for telephones, network connectivity, computing accounts, supported software applications, exam scanning, and a wide variety of personal computer issues.

#### **By Phone**

IT Service Desk  
(603) 862-4242  
[it.unh.edu/helpdesk](http://it.unh.edu/helpdesk)

#### **In Person**

Academic Technology Support Center  
Dimond Library, Level 3 (Main Level)  
<http://www.library.unh.edu/locations/dimond-library/dimond-academic-commons>

#### **On the Web**

Fill out a support request form at: [it.unh.edu/contactus](http://it.unh.edu/contactus).

**Web and Mobile Development.** Web and Mobile Development designs, develops, and manages websites, mobile applications and web-based applications for centrally or grant funded projects for UNH, USNH, and its partners. We offer ongoing training and support for our web and mobiles services or consulting and project management for new projects. For more information or to fill out a request form please visit our website at <https://unh.edu/it/web-mobile-development>.

## **Graduate Student Housing**

[www.unh.edu/housing](http://www.unh.edu/housing)

### **Babcock Hall and Forest Park Apartments**

Babcock Hall is a community of 180 graduate, international, and nontraditional students. Five-story Babcock Hall combines social, educational, and cultural opportunities with the convenience of on-campus living. All rooms are single occupancy, simply furnished, and are wired for cable television and Internet access. Each floor has a kitchenette and several study and television lounges available for residents' use. The building has table tennis, a piano, a fireplace, laundry facilities, and mail delivery located on the lobby level.

Family housing at the Forest Park Apartment Complex provides campus housing for married students, students with dependent children, single graduate students, and staff and faculty members (when space allows). The community at Forest Park is diverse, with students and faculty members from all over the world. The three-acre complex is located on the southern edge of campus, within close walking distance of UNH academic and administrative buildings and Durham's shopping and business district. The two- and three-story buildings within Forest Park house 97 apartments. These include studio (efficiency), one-bedroom, and two-bedroom apartments.

Following acceptance to the Graduate School, any student interested in on-campus housing should contact the University's Department of Housing.

### **Summer Housing**

Rooms in Babcock Hall are available to graduate students taking courses during the summer. Students interested in

summer accommodations should contact the Department of Housing. Off-campus housing is listed on the Web at [www.unhmub.com/housinglist](http://www.unhmub.com/housinglist).

## **Dining Services**

[www.unh.edu/dining](http://www.unh.edu/dining)

UNH Dining Services is committed to providing the highest level of quality food and service at a great value. Offering fresh and healthy food options at three dining halls and seven retail locations, UNH Dining Services can meet the needs of busy graduate students. UNH Dining hall choices include all-day breakfast, sushi, rotisserie selections, brick oven specialties, and afternoon tapas along with local, sustainable, vegan, vegetarian, and gluten-free items. UNH Dining retail locations offer everything from Starbucks® Coffee to inspired salads made with the freshest local greens grown right on campus. Flexible meal plans and payment options make UNH Dining Services a convenient way to eat while you are here.

## **Campus Recreation**

<http://campusrec.unh.edu>

Campus Recreation provides a variety of opportunities for you to maintain your active, healthy lifestyle. Programs and facilities are available for full-time matriculating students. Memberships are available for non-students.

Programs include group exercise classes such as cycling, yoga, and Zumba; intramural sports with co-rec, men's and women's teams; sport clubs; outdoor adventures; instructional classes; ice skating; and aquatics.

Campus Recreation manages 11 facilities including the new Hamel Recreation Center (HRC) with cardio and weight equipment, multipurpose courts, bouldering wall, saunas, locker rooms, and much more; Swasey Indoor Pool (located at the Field House); Whittemore Center Arena for ice sports and major events; outdoor fields; Outdoor Pool; and a large outdoor recreation facility on Mendum's Pond in Barrington.

## **Memorial Union Building**

[www.unhmub.com](http://www.unhmub.com)

The "Heart of Campus" is the Memorial Union Building (MUB). The original building was a gift from UNH alumni and is the official state war memorial. It is the location for lectures, cultural programming, and a large number of free or inexpensive entertainment programs and activities.

The MUB is wireless in all public spaces and meeting rooms. Key areas of the MUB are the Information Center; two state-of-the-art movie theaters, which include 3-D capability; Games Room with both billiards and electronic games; the UNH Bookstore; the UNH Computer Store; the Ticket Office; the ID Office and lounge/study space. On the second floor, student mail delivery is available for free for graduate students at Granite Square Station. Close by, mailing and shipping services are also available at Granite Square Shipping. Computing and Information Services provides a computer cluster. The Union Court offers expanded dining options., Limited drink options, candy, and popcorn are also available at The Notch on the third floor. The Graduate Student Senate has office space in MUB 119E.

Student Activities a division of the Memorial Union, is a resource center for student organizations, leadership programs, Fraternity and Sorority Life, and commuter and non-traditional students. There are more than 275 student organizations, most are open to graduate students and several are graduate-student specific. Student organization, involvement, and leadership information and events can be accessed through [Wildcatlink.unh.edu](http://Wildcatlink.unh.edu). UNH students, staff, and faculty can access all pages by using their UNH IT ID.

## **Commuter and Non Traditional Student Services**

[www.unhmub.com/off-campus](http://www.unhmub.com/off-campus)

Located in the Memorial Union Building, Room 114, UNH Commuter Student Services provides resources, services, and programs for all students living off campus. Resources available include listings for off-campus housing, tenants' rights information, and the UNH Community Guide that has both community and UNH information (available as a PDF on our website). We also host programs such as Commuter and Transfer student Orientation (an orientation program for all new UNH students held before classes begin each semester), Good Morning Commuters, breakfast during Graduate Student Appreciation Week, non-traditional student events, and many other Programs. The Campus Connection, an e-mail containing UNH events, activities, and programs is a great weekly resource; subscribe at [www.unhmub.com/off-campus/](http://www.unhmub.com/off-campus/). In addition, specific programming and support is offered for graduate students, student veterans, and non-traditional

students that assists student to become familiar with many resources both on and off campus. Visit our website, e-mail [off-campus@unh.edu](mailto:off-campus@unh.edu), or call (603) 862-0303 for additional information or assistance.

## **The Office of Student Involvement and Leadership**

[www.unhmub.com/involvement](http://www.unhmub.com/involvement)

Located in Memorial Union Building (MUB), Room 114, the Office of Student Involvement and Leadership is the home of student organizations, leadership development programs, Greek life, and Commuter Student Services. We are the place to help you get involved on campus! Find information ranging from student organizations, fraternities and sororities, sample apartment sublet agreements, staying connected to campus, and much more. Student organization, involvement, and leadership information and events can be accessed through [Wildcatlink.unh.edu](http://Wildcatlink.unh.edu). UNH students, staff, and faculty can access all pages by using their UNH IT ID.

## **Health Services**

The University has a nationally accredited health and wellness program. [www.unh.edu/health-services](http://www.unh.edu/health-services)

### **Medical Services**

Health Services provides comprehensive, student-focused, primary medical care through a team approach. The clinical staff consists of board-certified physicians, physician assistant, nurse practitioners, nurses, and medical assistants who are committed to prevention and holistic care. Primary medical care is provided for a large variety of common concerns.

<http://www.unh.edu/health-services/services>

### **Office of Health Education and Promotion**

The Office of Health Education and Promotion coordinates health promotion activities on campus. Services provided include educational programs/workshops, individual and group health counseling, and support to promote healthy lifestyle choices. <http://www.unh.edu/health-services/ohep>

### **Student Health Benefits Plan**

Health insurance is required as a condition of enrollment for full-time degree students at the University of New Hampshire. Some students have the option of waiving this requirement if they present proof of adequate coverage; alternatively, students can acquire an affordable health benefits plan sponsored by the University. For more information about the University's Student Health Benefits Plan, visit <http://www.unh.edu/shbp>.


### **Immunization Requirement**

Health Services requires proof of two Measles, Mumps and Rubella (MMR) vaccinations prior to attendance. Any student failing to complete this requirement may not be cleared to register for future classes. For more information on the requirement and completion of the on line health form, visit <http://www.unh.edu/health-services/incoming-students>

## **Counseling Center**

[www.unhcc.unh.edu](http://www.unhcc.unh.edu)

The Counseling Center offers confidential professional consultation, individual and group therapy, online screenings for mental health, outreach and educational workshops for a broad range of emotional, psychological, and interpersonal concerns. Students are seen for a wide variety of concerns including, but not limited to, relationship problems, anxiety, grief and loss, depression, adjustment difficulties, sexuality, trauma, substance abuse, learning disabilities, eating concerns, and self-harm.

Appointments can be made over the phone at (603) 862-2090  (603) 862-2090/TTY 7-1-1 or in person at Smith Hall, Room 306. In addition, emergency services are offered during the week by our staff and through local psychological services after hours. We also have a wide range of emergency call referral services on our website. All information about a student's visits to the Counseling Center is confidential and cannot be released without the written permission of the student.

The staff comprises licensed psychologists, doctoral interns, postdoctoral fellows, and a consulting psychiatrist. The Counseling Center is fully accredited by the International Association of Counseling Services, Inc. and offers a doctoral internship training program that is accredited by the American Psychological Association.

## Center for International Education

[www.unh.edu/cie](http://www.unh.edu/cie)

The Center for International Education's mission is to promote and facilitate global learning and responsible world citizenship. The center helps UNH students, faculty, and New Hampshire citizens gain international knowledge and experience in order to better understand the complexities of world affairs and effectively respond to the global issues affecting their lives and livelihood. International knowledge, intercultural competence, and global preparedness are at the core of CIE's mission. CIE achieves its mission through its support of the *Report of the President's Panel on Internationalizing UNH* and through the following programmatic activities:

### **International Affairs Dual Major**

To help students of every major develop critical global understanding, foreign language competency, and international experience

### **Study Abroad**

For a new perspective and valuable first-hand experience in countries around the world

### **Scholarship Opportunities**

To make direct international learning available to students with financial need

### **N.H. International Seminars**

By eminent UNH and visiting scholars to engage the community on important international issue

### **Faculty Development**

To support faculty to explore research and collaborations abroad to enrich classroom teaching and the UNH community

## Disability Services for Students

[www.unh.edu/disabilityservices](http://www.unh.edu/disabilityservices)

The University of New Hampshire and Disability Services for Students (DSS) take great pride in promoting the development of students and the personal independence necessary to succeed academically and beyond. We seek to create a welcoming, universally accessible environment where all students are able to participate in the myriad aspects of the UNH experience.

DSS is responsible for determining and ensuring academic and housing accommodations. Additionally, we are a source of information and referral, a resource and collaborative partner for the campus community, and a point of support and advocacy regarding access issues in general. Self-identifying with DSS is the first step. You will need to provide documentation, make an appointment to review/discuss it, and identify appropriate accommodations. Creating a faculty accommodation letter is part of that process. Please see the [Documentation Guidelines](#) for direction on what to provide. If you are unsure, submit/bring whatever you may have so we can review and evaluate it.

The office is located in Smith Hall, Room 201. Contact DSS as soon as possible after acceptance to assure accommodation of disability and smooth coordination of available services: 603-862-2607, 7-1-1 (TTY) or 800-735-2964 (Relay NH); or e-mail [disability.office@unh.edu](mailto:disability.office@unh.edu). All disability-related documentation is strictly private and remains in the DSS office.

## Community, Equity and Diversity

<http://www.unh.edu/ced>

### **Inclusive Excellence Initiatives**

Through educational programming, staff training opportunities, and academic research, our goal is to make the University of New Hampshire a more diverse, respectful community, one that communicates to all of its members that they are respected and that their contributions are valued.

### **Commitment to Diversity and Inclusive Excellence**

Diversity is a community value at the University of New Hampshire. We are committed to supporting and sustaining an educational community that is inclusive, diverse, and equitable. The values of diversity, inclusion, and equity are inextricably linked to our mission of teaching and research excellence, and we embrace these values as being critical to development, learning, and success. We expect nothing less than an accessible, multicultural community in which civility and respect are fostered, and discrimination and harassment are not tolerated. We will ensure that underrepresented groups and those who experience systemic inequity will have equal opportunities and feel welcome on our campus. We

accept the responsibility of teaching and learning in a diverse democracy where social justice serves as a bridge between a quality liberal education and civic engagement.

## **International Students and Scholars**

<http://www.unh.edu/global/international-students>

The Office of International Students and Scholars (OISS) promotes international education at UNH by facilitating the enrollment and employment of foreign nationals and by providing them with essential support services. The OISS coordinates programs that encourage interaction between the international, campus, and local communities, thereby fostering awareness and appreciation of other cultures. It is the responsibility of the OISS to ensure University compliance with U.S. immigration and employment regulations and to assist international students, exchange scholars, faculty, and staff in the achievement of their academic and professional goals.

The OISS staff provides immigration advising, non-academic counseling, information on University policies, administrative support, and referral services. A variety of social and educational programming activities is offered, including orientation for incoming students, faculty and staff, and others.

All international students are encouraged to maintain contact with the OISS and are required by law to report changes of address, academic program, or source of educational funds.

## **Office of Multicultural Student Affairs (OMSA)**

[www.unh.edu/omsa](http://www.unh.edu/omsa)

OMSA creates opportunities for people to participate in an inclusive community and to explore and understand diversity, social justice, inclusion, and equity via educational presentations, workshops, professional development opportunities, retreats, brown-bag discussions, etc. We serve all members of the UNH community through these various opportunities and beyond.

Our work is grounded in an understanding of diversity that includes people of all abilities, ages and ethnicities, genders, nationalities, races, religions/spiritual traditions, socioeconomic classes, and sexual orientations.

Providing support, advising, advocacy, and student development opportunities for African American/Black/African/Caribbean, Hispanic/Latino/a, Native American/First Nations, Asian/Asian American/Pacific Islanders, Multiracial/Biracial, Arab/Middle Eastern, and Lesbian, Gay, Bisexual, Transgender, Queer, and Questioning students, and First Generation College Students and Allies is at the heart of our work.

We are located in the Memorial Union Building (MUB), Room 327. We look forward to serving you.

## **President's Commissions**

### **President's Commissions**

#### **Community, Equity and Diversity**

For information and resources on ways that UNH invites a diversity of experiences to its learning community, visit the [Office of Community, Equity and Diversity's website](#) as well as the four President's Commissions websites as described below. Faculty, staff, and student volunteer commission members are appointed each year by the president to advocate for improvement of UNH policies and practices that create inclusive curricula and welcoming classroom, living, and work environments for all.

In addition, each year, one graduate student is selected to serve on the Community, Equity and Diversity Advisory Council to monitor and assess the progress of the commissions.

#### **President's Commission on the Status of Lesbian, Gay, Bisexual, Transgender, Queer + People**

[www.unh.edu/glb](http://www.unh.edu/glb)

The UNH President's Commission on the Status of **Lesbian, Gay, Bisexual, Transgender, Queer + People** facilitates the development of a University community that is equitable and inclusive of all sexual orientations, gender identities, and gender expressions.

#### **President's Commission on the Status of People of Color**

[www.unh.edu/cspc](http://www.unh.edu/cspc)

The UNH President's Commission on the Status of People of Color proposes, recommends, and evaluates programs, policies, and services aimed at fostering diversity on campus and ensuring a campus climate in support of people from under-represented groups.

### **President's Commission on the Status of People with Disabilities**

[www.unh.edu/cspd](http://www.unh.edu/cspd)

The President's Commission on the Status of People with Disabilities is to promote empowerment and inclusion of students, faculty, staff, and guests with disabilities and to develop universal access for a diverse group that includes individuals with visible and nonvisible disabilities. The commission provides a forum for discussion of disability-related issues relevant for the campus and larger community.

### **President's Commission on the Status of Women**

[www.unh.edu/womens-commission](http://www.unh.edu/womens-commission)

The UNH President's Commission on the Status of Women creates equal employment and educational opportunities, through policy, advocacy, and education, in its promotion of an environment free of sexism and discrimination.

## **Sexual Harassment and Rape Prevention Program**

[www.unh.edu/sharpp](http://www.unh.edu/sharpp)

The Sexual Harassment and Rape Prevention Program (SHARPP) is a crisis intervention center dedicated to providing free and confidential services for all members of the University community. SHARPP operates a 24-hour support line as well as in-person and online advocacy services to respond to the needs of survivors of sexual assault, sexual harassment, childhood sexual abuse, relationship abuse, and stalking. SHARPP also provides support and crisis services for those who are impacted by abuse experienced by someone they are close to. Additionally, SHARPP presents a wide range of educational programs to the University community and serves as a campus-wide resource on issues relating to sexual and relationship violence. For more information about SHARPP, please visit [www.unh.edu/sharpp](http://www.unh.edu/sharpp).

## **UNH Transportation Services**

[www.unh.edu/transportation](http://www.unh.edu/transportation)

UNH Transportation Services administers visitor parking; parking for faculty, staff, and students; and University mass transit. Other services offered by Transportation Services are Cat Courier, Guaranteed Ride Home, Safe Rides, and the Bike Program.

### **Wildcat Transit**

Wildcat Transit Bus Service provides public transportation from Durham to Dover, Portsmouth, Newmarket, and Rochester, with connections to other local and interstate bus service providers.

### **Campus Connector is the on-campus bus service.**

The Campus Connector provides free service for students and visitors throughout the campus and the town of Durham.

### **Wildcat Access**

Wildcat Access provides rides for people with either permanent or temporary disabilities who cannot access Campus Connector around campus.

## **University Police**

[www.unh.edu/upd](http://www.unh.edu/upd)

The nationally accredited University Police Department's mission is to support the University community in creating a safe environment that is conducive to higher education by protecting life and property while supporting the rights and dignity of all persons. Specific educational programs, including drug and alcohol abuse prevention, are provided by professionally trained police officers. Rape Aggression Defense (RAD) is taught to female students, staff, faculty, or community members, and a walking patrol provides escort services for students, faculty, and staff. Sign up for free emergency notifications, crime alerts, and safety bulletins at <https://alert.unh.edu>.

## **Veterans Information**

UNH Military and Veterans Services, located in room 301Thompson Hall, provides counseling on all aspects of veteran's benefits and assistance in procuring and completing the required forms and certifications for veteran's benefits. The office

maintains a comprehensive directory to assist veterans in contacting state, local, and University resources. The staff in Military and Veteran Services can also provide information about networking with other veterans, campus and community resources as well as events and programs happening that might be of interest to veterans and military connected students. Please stop by Thompson Hall and check out the new veterans lounge. If you have questions please call (603) 862-0643, or email [UNH.Veterans@unh.edu](mailto:UNH.Veterans@unh.edu).

See the [UNH Veterans webpage](#) to request benefits, stay up to date on benefits changes, and find out about events.

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## Graduate Course Catalog 2016-2017

### Academic Regulations and Degree Requirements ▼

» <http://www.gradschool.unh.edu/>

« [Academic Regulations and Degree Requirements](#)

It is the student's responsibility to become familiar with the academic regulations and degree requirements of the Graduate School as well as the special requirements of their own academic program. The general requirements of the Graduate School are found in the catalog. Individual program requirements may be found in the catalog or obtained from the respective department.

### Academic Honesty

Academic honesty is a core value at the University of New Hampshire. The members of its academic community both require and expect one another to conduct themselves with integrity. This means that each member will adhere to the principles and rules of the University and pursue academic work in a straightforward and truthful manner, free from deception or fraud. The academic honesty policy can be found in the [Student Rights, Rules, and Responsibilities](#) handbook.

### Graduate Courses

Graduate credits may be earned in courses numbered from 800 through 999, or under limited circumstances in courses numbered at the 700 level.

The faculty of each graduate program prescribes the courses that make up the degree program. In addition, the Graduate School has general requirements for master's and doctoral degree programs.

### 800- and 900-Level Courses

800- and 900- level courses are offered for graduate credit only and therefore are open only to admitted graduate students or non-degree students with a minimum of a bachelor's degree.

### 700-Level Courses

700- level courses are advanced undergraduate courses. Up to 12 credits earned in 700-level courses may be petitioned for graduate credit by a graduate degree student, provided the credits are taken in a program other than the one in which the student is seeking the degree and provided such courses are approved by the student's adviser, graduate program coordinator, and the dean of the Graduate School. Such courses must be taken for a letter grade. Petitions must include what additional requirements or expectations will be required of the student to make the course a graduate level experience. Petition forms are available at <http://www.gradschool.unh.edu/fp.php>

### Simultaneous 700/800 Courses:

800-level courses may be cross-listed with 700-level courses and taught simultaneously to both graduate and undergraduate students. While the content of the course is the same, the requirements and expectations of the students differ substantially with assignments, examinations, projects and analyses demonstrating a broader depth of understanding, sophistication and skills for students enrolled at the 800-level.

**Graduate credit will not be given** for any courses (700- level or simultaneous 700/800 level) that have freshmen or sophomores enrolled. The Graduate School monitors those advanced-level undergraduate courses that are co-listed and co-taught with 800-level graduate courses to ensure that only advanced-level undergraduates are enrolled.

### Graduate Grading

**Letter grades:** The following grades are used at the University: A (4.0), A- (3.67), B+ (3.33), B (3.0), B- (2.67), C+ (2.33), C (2.0), C- (1.67), D+ (1.33), D (1.0), D- (.67), F (0). Graduate credit is only granted for courses completed with a



grade of B- or higher. Individual programs may have stricter requirements, and those are published with their degree program requirements.

**AF Grades:** An "AF" grade, Administrative F, is assigned for failure to either drop or complete a course. An "AF" is considered the same as an "F."

**Credit/Fail Grades:** A "CR" grade is assigned for complete, approved theses and dissertations, as well as other approved courses and seminars.

**Pass/Fail Grades:** Graduate courses cannot be taken pass/fail. A graduate student may petition to take undergraduate courses on a pass/fail basis. Such a petition must be approved by the end of the add period for the term the course is taken. A grade of "C" is the minimum grade in order to receive a "P." Courses at the 700-level approved for graduate credit cannot be taken for pass/fail.

**Audit Grades:** An "AU" grade is assigned for completion of courses for which an audit was granted. No credit is earned.

**Incomplete Grades:** An "IC" grade is assigned with the approval of the instructor for excused unfinished work only. The work must be completed and submitted to the instructor by the date agreed upon with the instructor, but not later than the last day of classes of the semester immediately following the one in which the incomplete was granted (800- and 900-level courses only; midsemester deadline for 400-, 500-, 600-, and 700-level courses). If extraordinary circumstances arise, a petition requesting additional time may be submitted. The petition, listing a specific deadline for completion, must be approved by the instructor, the student's adviser, and graduate program coordinator before being submitted to the Graduate School. An extension will be granted by the dean only under unusual circumstances and will usually not exceed one calendar year from the end of the semester in which the course was originally taken. An incomplete grade becomes an "F" if not resolved or if a petition for an extension is not approved within the allotted time period. This policy also applies to students who withdraw from the University or who are on an approved leave of absence.

**IA Grades:** An "IA" grade is assigned for approved continuing courses such as thesis or doctoral research and remains on the record until the course requirements are completed. In the case of doctoral research, the "IA" grades remain on the official transcript for all semesters prior to the completion of the degree. The "IA" grade for the final term of enrollment will be changed to "CR" to signify successful completion of the dissertation.

**W Grades:** If a student withdraws from school or drops a course prior to the fifth Friday of the semester, the course(s) will not appear on the student's permanent record. If a student withdraws from school or, for compelling nonacademic reasons, submits an approved petition to drop a course after the fifth Friday of the semester, a notation of "W" will be shown on the student's academic record. If the withdrawal or drop is after the midpoint in the class, a grade of "WP" or "WF" is shown on the record. A "WF" is considered a failing grade and will calculate into the GPA as such. Deadlines for courses scheduled for any time period other than a full semester are apportioned at the same rate as semester courses. The actual dates are determined on a term-by-term basis.

**Appeals:** Every instructor must be prepared to discuss and explain the basis for her or his evaluation of students. If, after consulting the instructor, a student still believes that he or she was treated unfairly, he or she has the right to seek redress from the chairperson of the department or program in which the course is offered. Under exceptional circumstances, a final appeal may be made to the dean of the college or school in which the program is offered.

**Repeated courses:** Repeating a course does not remove the original course or grade from the record. If the course numbers and/or titles do not match exactly, graduate students must obtain written permission of their adviser, graduate program coordinator, and the endorsement of the Graduate School dean before the adjustment will be made. Only the most recent grade is included in the cumulative grade-point average; only the most recent credit, if any, is included in the cumulative credits earned. A course may only be repeated once. Only repeated courses taken at UNH will alter the cumulative grade-point average.

## UNH Credit Hour Policy

The University of New Hampshire is in compliance with the federal definition of credit hour. For each credit hour, the University requires, at a minimum, the equivalent of three hours of student academic work each week. Academic work includes, but is not limited to, direct faculty instruction, e-learning, recitation, laboratory work, studio work, fieldwork, performance, internships, and practica. Additional academic activities include, but are not limited to, readings, reflections, essays, reports, inquiry, problem solving, rehearsal, collaborations, theses, and electronic interactions. Student work reflects intended learning outcomes and is verified through evidence of student achievement.

## Academic Standards

Graduate students receiving grades below "B-" in 9 or more credits, including undergraduate courses taken while a graduate student, will be dismissed from the Graduate School.\*

Graduate students enrolled under the accelerated master's program receiving any grade below "B-" in a graduate course while in dual status can be dismissed and have their admission to the Graduate School withdrawn.

Graduate students will have a maximum of two opportunities to successfully complete final examinations for the master's or Ed.S. degree.

Doctoral students will have a maximum of two opportunities to successfully complete qualifying or final examinations for the Ph.D. degree.

Graduate students admitted on a conditional or provisional basis must meet the conditions or provisions as stated in the letter of admission in order to remain in the Graduate School.

Graduate students MUST have a cumulative GPA of 3.0 or higher in order to graduate.

\* Each individual program may set and announce standards for coursework, examinations, and/or research achievement that are more rigorous than the Graduate School standard. Thus, students may be dismissed if they accumulate less than 9 credits of grades below the "B-" level, and/or fail to make adequate progress in other aspects of their graduate program.

## **Dismissal for Failure to Make Satisfactory Academic Progress**

**This process is currently under review.**

### **Policy and Appeals Procedure for Graduate Students Dismissed for Failure to Make Satisfactory Academic Progress or Professional, Ethical, or Behavioral Misconduct**

The process by which a student can be dismissed for violations of academic standards or violations of professional, ethical, and/or behavioral expectations of the program is outlined below along with the process by which such decisions can be appealed.

#### **Dismissal for Failure to Make Satisfactory Academic Progress**

(Note: This procedure is not available to graduate students who have received failing grades in 9 or more credits.)

A department chairperson or a graduate program coordinator, upon the recommendation of the appropriate faculty committee, may recommend dismissal for a student who is failing to make satisfactory academic progress in their program. This recommendation shall be forwarded in writing to the associate dean of the Graduate School with a copy to the affected student. The associate dean of the Graduate School will act on the faculty recommendation and inform the student and the graduate program coordinator or department chair of the action taken. A student disagreeing with the action taken should make every effort to resolve the situation through informal discussions with the individuals involved in the decision. If the recommendation to dismiss is changed at this point, the associate dean will be notified and after review will notify the student of the decision. If the decision to dismiss stands, a student wishing to enter a formal appeal shall follow the procedure outlined below. A student who has been dismissed for failure to make satisfactory academic progress may, with the permission of the dean of the Graduate School, enroll as a special student in courses in his/her program pending a final decision on the appeal.

#### **Dismissal for Professional, Ethical, or Behavioral Misconduct**

Graduate students shall conduct themselves in a manner consistent with the norms and practices of their program and/or discipline.

A department chairperson or graduate program coordinator, upon the recommendation of the appropriate faculty committee at the department/program level, may recommend dismissal for a student who is failing to meet the professional, ethical, and behavioral expectations of the program or otherwise fails to act in ways that are consistent with the norms and standards of the profession or discipline. This recommendation shall be forwarded in writing to the associate dean of the Graduate School with a copy to the affected student. The associate dean of the Graduate School shall act on the faculty recommendation and inform the student and the graduate program coordinator or department chair of the action taken. A student disagreeing with the action taken should make every effort to resolve the situation through informal discussions with the individuals involved in the decision. If the recommendation to dismiss is changed at this point, the associate dean will be notified and after review will notify the student of the decision. If the decision to dismiss stands, a student wishing to enter a formal appeal shall follow the procedure outlined below. A student who has been dismissed for professional, ethical, or behavioral misconduct may, with the permission of the dean of the Graduate School, enroll as a special student in courses in his/her program pending a final decision on the appeal.

*Appeals Process for Graduate Students Dismissed for Failure to Make Satisfactory Academic Progress or Professional, Ethical, or Behavioral Misconduct*

**Step 1:** The student shall request that the faculty member or committee making the original recommendation reconsider their decision, generally within 10 working days after the receipt of the official decision from the Graduate School. The student's request shall be written and shall contain any information which the student feels warrants a reconsideration of

the decision. A copy of the request shall be sent to the dean of the Graduate School. As soon as possible after receiving this request, the faculty member or committee group will reconsider their decision and notify the student and the dean of the Graduate School of the result of their deliberations in writing. If the original recommendation is reversed at Step 1, the associate dean will review the new material and act on the recommendation and inform all parties involved.

**Step 2:** If the student is not satisfied with the decision reached in Step 1, they may request that the chairperson of the appropriate department or program convene a meeting of all graduate faculty members in the department or program to review the decision. The student's request shall be in writing, and a copy shall be sent to the dean of the Graduate School. After the meeting, the chairperson will provide the student and the dean of the Graduate School with written notification of the decision of the faculty. If the recommendation to dismiss is reversed by the graduate faculty, the associate dean will again review the case, act on the recommendation and inform all parties involved.

**Step 3:** If the student is dissatisfied with the decision reached in Step 2, they may request that the dean of the Graduate School review the decision. The student must request such a review in writing and stipulate the reasons for dissatisfaction with the decisions reached in the earlier steps in the review procedure. Within a reasonable period of time, the dean of the Graduate School will hold separate meetings with the student and the appropriate faculty and the associate dean to discuss the case. After these meetings and after reviewing any other information deemed appropriate, the dean of the Graduate School will inform the college dean about the appeal process to date. In consultation with the Graduate Council, the dean of the Graduate School will then arrive at a final decision, which will be communicated in writing to the student, the department or program faculty, and the college dean.

In Steps 1 and 2, the student may, at the discretion of the faculty body involved in hearing the appeal, be present to state their case during the review of the appeal. A member of the University community may appear with the student, as an adviser, before the dean of the Graduate School and before any faculty meeting, which the student is permitted to attend. An adviser may be present, but may not directly participate, in any of these proceedings. Students shall not be present during deliberations.

Approved by the Graduate Council, April 6th, 2010.

## **Transfer of Credits**

A maximum of 12 credits taken by a student prior to matriculation (internal and external combined) can be applied to a degree program.

### **External to UNH**

Students may request that a maximum of two courses, for up to 8 semester credit hours of graduate level coursework from an accredited institution authorized to grant graduate degrees, be transferred to count toward their graduate program. Courses must be at the graduate level and cannot have been used or be in the process of being used in earning another graduate degree or have been taken while completing a bachelor's degree. A grade of **B** or better must have been earned. Transfer of credits must be recommended by the program faculty and approved by the dean of the Graduate School. Students taking courses at another university for transfer after enrolling at UNH should obtain approval of their adviser and the graduate dean prior to enrolling in the course.

### **Internal to UNH**

A maximum of 12 credits completed by a nondegree student in UNH graduate courses (800 or 900 level) at UNH or UNHM may, upon approval of the dean of the Graduate School, be applied to a student's degree program. Each program's faculty retain discretion regarding the maximum number of graduate credits that will be recommended for approval (not exceeding 12).

## **Continuing Education Units**

The Continuing Education Unit (CEU) is a nationally recognized method of quantifying the time spent in the classroom during professional development and training activities. Ten hours of instruction = 1.0 CEU. One hour of instruction = 0.1 CEU. CEUs are not transferable as graduate credit.

## **Master's Degree Requirements**

- » [Credits](#)
- » [Residency](#)
- » [Capstone Experience](#)

- » [Capstone – Non-thesis Option](#)
- » [Capstone-Thesis Option](#)
- » [Thesis Credit](#)
- » [Thesis Committee](#)
- » [Submission of Thesis](#)
- » [Time Limit](#)

## Dual Degrees

The Graduate School allows UNH students to pursue two degrees at UNH and count credits toward both degrees under the circumstances detailed below. Such credit will be granted only for graded coursework completed with a grade of "B-" or higher. Application of such credit toward a student's program for a second degree is subject to departmental recommendation and approval by the Graduate School. Dual degrees should be interpreted to include separate majors within the same degree, or a combination of two different degrees. Students will receive separate diplomas for each degree program. **Note: No dual degrees will be awarded retroactively.**

**1. Accelerated Master's.** Qualified senior students at the University of New Hampshire may be admitted to the Graduate School provided they have followed normal application procedures; they must have been admitted for the semester in which they wish to enroll in courses for graduate credit. A 3.20 cumulative grade point average is normally required to be considered for early admission. Such seniors are normally admitted prior to the start of their last undergraduate semester. Seniors who have been admitted under early admission may register for a maximum of 12 credits of graduate-level courses prior to completing their bachelor's degree. Such courses may, upon recommendation of the department and approval of the Graduate School, count toward both a bachelor's and master's degree.

**2. Consecutive Master's Degrees.** Enrollment in consecutive master's degrees refers to admission and matriculation in a second master's degree program at the University of New Hampshire after the completion of the requirements for a first master's degree earned at the University of New Hampshire. A student may apply up to 12 credits earned in the first master's degree awarded at the University of New Hampshire toward a second master's degree with approval of the student's graduate advisory committee and/or graduate program coordinator in the second master's program. Thesis or research credits from the first program may not be counted toward the requirements of the second program.

**3. Concurrent Dual Degrees.** Enrollment in concurrent dual degrees occurs when a student is admitted to and matriculated in two graduate degree programs at the University of New Hampshire simultaneously. A student may pursue concurrent degrees only with approval of the appropriate graduate program coordinator(s) and the dean of the Graduate School. With approval of the student's graduate advisory committee(s) and/or the graduate program coordinator(s), a student may apply up to 12 University of New Hampshire credits earned in one master's degree toward the requirements for a second master's degree. A student must complete the capstone requirements for both programs. Completion of degree requirements for the two programs need not be at the same time.

**4. Integrated Dual Degrees.** Integrated dual degrees occurs when two graduate programs have formalized a program of study which creates an integrated program linking the two disciplines, while continuing to award separate degrees. Students must be admitted to both programs and complete the requirements for both degrees. Integrated dual degree programs may include a single admissions process, submission of a single thesis or capstone experience, and a single advisory committee composed of members from both programs. The number of required credit hours for integrated dual degrees must not be less than 80 percent of the total minimum hours required to complete each degree separately. Integrated dual degree programs must be approved by the Graduate Council and the dean of the Graduate School.

All standard policies relating to time to degree, residency requirements, academic standards, and minimum GPA required to graduate apply to any dual-degree arrangement.

If the student withdraws from one of the participating programs, the dual-degree arrangement is automatically nullified.

If a student's tuition is funded by one or more units, it is up to the funding unit to decide if tuition may cover courses taken solely for completion of the second program.

## Educational Specialist Degree

Requirements for completion of the educational specialist degree (Ed.S.) are found under the program descriptions of the Department of Education. A student can petition to count a maximum of 12 credits, not previously applied to a degree program and taken prior to admission to the Ed.S., toward a Ed.S. program.

All graduate work for the Ed.S. must be completed within six years from the date of matriculation (enrollment after admission) in the program.

## Doctoral Degree Requirements

The degree of doctor of philosophy is conferred on qualified candidates who have passed an oral or written examination(s) on the subject matter of their field of study, who have completed an original investigation in this field and have embodied the results in an acceptable dissertation, and who have passed an oral examination in defense of the dissertation. The degree of doctor of philosophy is essentially a research degree.

The degree of doctor of nursing practice is a practice based doctorate that prepares nurses for the highest level of specialized nursing practice. DNP graduates are prepared to translate evidence into practice, improve systems of care, and measure health outcomes in diverse settings. Graduates of the DNP program are prepared for culturally competent, evidence-based, system-based care, interprofessional collaboration and leadership. DNP graduates are distinguished by their abilities to:

**Affect practice**

Design and implement programs that improve health and healthcare delivery

Apply data management and informatics skills to evaluate programs, outcomes, and care systems

Influence health policy

*Responsible Conduct of Research*

As a land-grant institution, the University of New Hampshire (UNH) is accountable to New Hampshire residents and to the University community to ensure the ethical and safe conduct of research and scholarly activity. As an institution of higher education that prides itself on extensive research endeavors and the involvement of undergraduates and graduate students in research projects, UNH has an obligation to teach and actively promote integrity in research and scholarship.

To fulfill its obligations, UNH has embarked on a program on the responsible conduct of research and scholarly activity (RCR) to:

Raise the consciousness of faculty, staff, and students regarding the ethical and responsible conduct of research and scholarly activity;

Establish a knowledge base that defines normative and/or professional behavior to assist faculty, staff, and students in making ethical and responsible decisions in the conduct of research and scholarly activity; and

Foster an institutional culture of integrity in research and scholarly activity.

To support these efforts, the Graduate Council has mandated that all incoming Ph.D. students complete RCR training approved by the Graduate School by the end of their first semester. For more information, visit the [RCR website](#).

- » [Residency](#)
- » [Credits](#)
- » [Doctoral Research \(999\)](#)
- » [Guidance Committee](#)
- » [Qualifying Examination](#)
- » [Language/Research Proficiency](#)
- » [Degree Candidacy](#)
- » [Doctoral Committee](#)
- » [Time Limit](#)
- » [Dissertation](#)
- » [Final Defense](#)
- » [Submission of Dissertation](#)

## **Graduation**

Graduation occurs three times a year in September, December, and May. All students MUST file an intent-to-graduate form by the appropriate deadline specified on the [Graduate School calendar](#). Students must file this form online through the MyUNH website. More information on this process is available on the Graduate School's website at <http://www.gradschool.unh.edu/graduation.php>.

All coursework completed prior to the official conferral of the degree will be applied only to that degree program. Graduate students MUST have a cumulative GPA of 3.0 or higher in order to graduate.

## **Commencement**

The annual commencement ceremony is held in May.

Doctoral, Master's and Ed.S. students who earned their degrees in the preceding September and December are invited to participate in commencement ceremonies in May.

Master's and Ed.S. students who expect to complete their degree program in May, as well as those who expect to complete their programs at the end of the summer term following the commencement ceremony (September), are eligible to

participate in the May commencement ceremony. Students who file their intent-to-graduate online for either May or September by the last deadline to file for May will be listed in the commencement book.

Doctoral students must have completed all requirements for the degree by the published deadlines for May in order to participate in the May ceremony. Only those candidates who have completed their program are listed in the commencement book.

All students who intend to participate in the May ceremony must register to attend through the Commencement Office.

For more information on how to register for commencement please visit the UNH Commencement Website [www.unh.edu/presidentialevents/commencement](http://www.unh.edu/presidentialevents/commencement).

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## Graduate Course Catalog 2016-2017

### UNH Affirmative Action and Equity Statement ▼

The University of New Hampshire (UNH) is a public institution with a long-standing commitment to equal opportunity for all. It does not discriminate on the basis of race, color, religion, sex, national origin, age, veteran's status, gender identity or expression, sexual orientation, marital status, or disability in admission or access to, or treatment or employment in, its programs, services, or activities. Sexual harassment and sexual violence are types of sex discrimination. Inquiries regarding discriminatory harassment (including sexual harassment or violence) should be directed to Donna Marie Sorrentino, [dms@unh.edu](mailto:dms@unh.edu), Director & Title IX Coordinator, Affirmative Action and Equity, Room 305, Thompson Hall, 105 Main Street, Durham, N.H. 03824, phone (603) 862-2930 (voice), (603) 862-1527 (TTY), 7-1-1 (Relay NH), (603) 862-2936 (fax); or to the Office for Civil Rights, U.S. Department of Education, 8th Floor, 5 Post Office Square, Boston, MA 02109-3921, phone (617) 289-0111, fax (617) 289-0150, e-mail [OCR.Boston@ed.gov](mailto:OCR.Boston@ed.gov).

There are various grievance procedures to provide for the resolution of complaints under this policy. See the [UNH Discrimination and Discriminatory Harassment Policy](#) and [Grievance and Complaint Procedures](#) in [UNH Student Rights, Rules, and Responsibilities](#). Further information may be obtained at the Affirmative Action and Equity Office or via e-mail [affirmaction.equity@unh.edu](mailto:affirmaction.equity@unh.edu).

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